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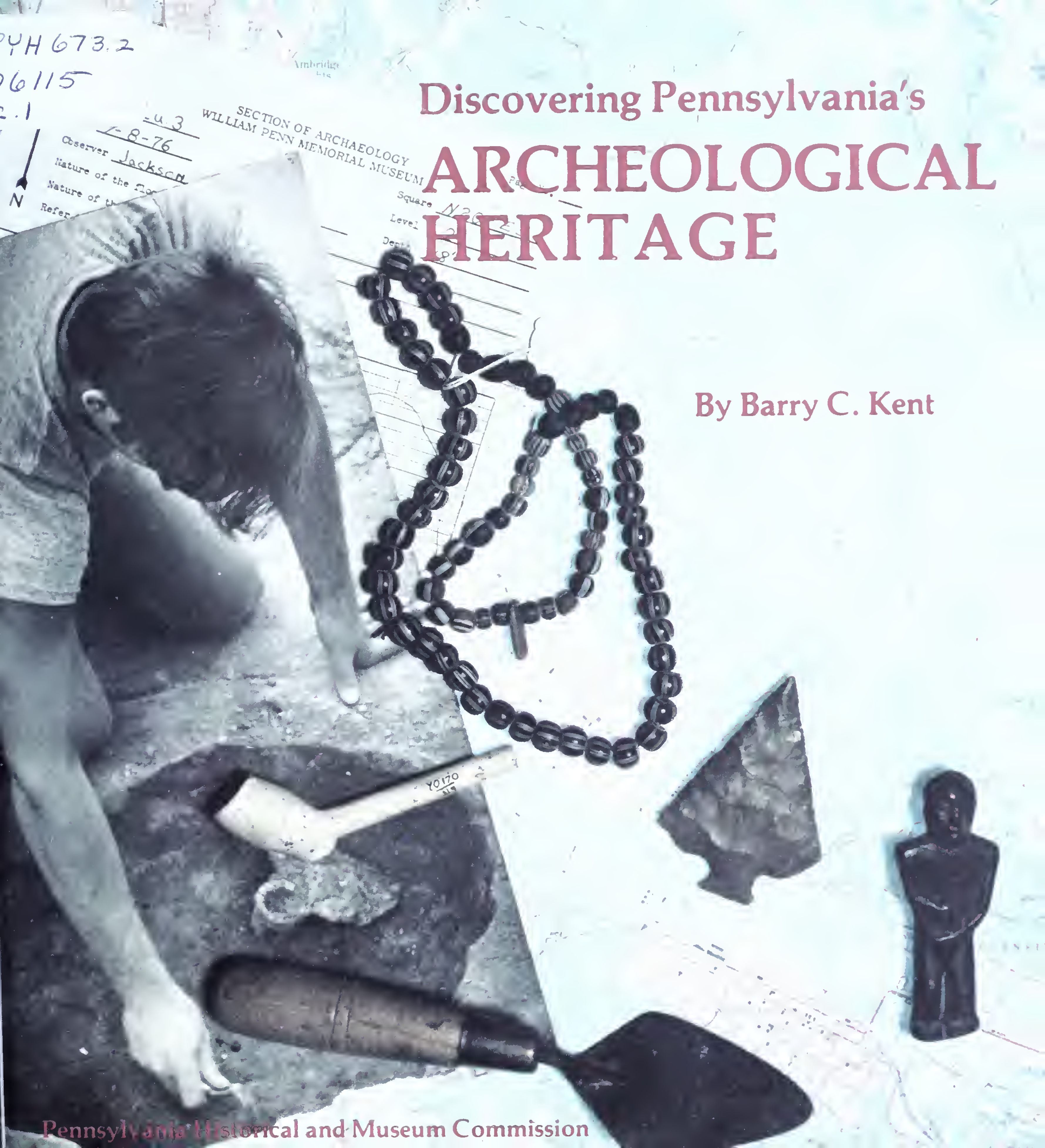

# Discovering Pennsylvania's ARCHEOLOGICAL HERITAGE

By Barry C. Kent

Pennsylvania Historical and Museum Commission

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# INTRODUCTION

Human activities and their interaction with our natural environment, whether occurring a million years ago, or as recently as yesterday, have shaped the world we live in today. The course of these events and their impact upon us and our surroundings form an inheritance which in the broadest sense belongs to all of us. Usually we concern ourselves with *our own* national, state or local heritage. Except for the fact that it is more difficult to comprehend, we might just as well examine our world cultural heritage—it certainly exists. At whatever level we choose we find that not all of it is beautiful or arouses feelings of group pride; some of it is quite ugly and embarrassing. Many of us literally take our heritage for granted, ignoring it, or not caring about its effect on our lives.

History is one of the major vehicles by which we can follow and understand our backgrounds. This might be a matter as simple as reflecting upon things which have taken place in our own lifetimes. Written and oral records enable us to look at events farther back in time. For that longer and more ancient period of mankind's existence, for which there are no written records, we turn to archeology and anthropology to discover what has happened.

Like most things today, archeological work costs money. Knowledge and understanding gained from archeology are generally not very marketable; and so this research into our past depends to a great extent upon public funds and interest.

Unfortunately the reports of archeological investigations are frequently unintelligible to the public which supports them. Technical reports of archeological research are necessary so that other archeologists can further their own investigations. The layman, therefore, gets much of his information from news accounts, which often are inaccurate and misleading and poorly serve the purpose of publicly supported archeology.

We should not imply that there have been no accurate, popular accounts, nor novels that portray the romance and value of archeological discovery; there have been. There are also many fine museum exhibits showing what has been learned of man's heritage.

Archeological research continues to grow and to generate new information about the past. Thus there is a continuing need to explain it to those for whom the work is really being done. Just as archeology has become more sophisticated, so has the level of public interest in the subject. Many today want to know not only what anthropologists, archeologists, historians and other investigators are discovering about mankind and his achievements, but also how they are doing it. The explanation of these matters is part of the job of the researchers, and the the purpose of this book.

## Acknowledgments

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# ANTHROPOLOGY

Anthropology means "the science of man." It is not, however, the study of specific individuals; other sciences may do that. The concern of anthropology lies primarily in understanding the activities, products and behavior of groups, races or whole nations of mankind.

Virtually everything which man does can be considered as part and parcel of his culture, whether it be knapping a flint tool or worshipping a deity.

Interest in man's cultures and their many varieties goes far back into history. Twenty-five hundred years ago the Greek scholar Herodotus was writing extensively about the ways of life of other peoples. However, anthropology as a science is generally considered to have had its beginning only as recently as the mid-nineteenth century with the work of Charles Darwin and his theory of evolution. Since then anthropology has grown into a number of specialized subdisciplines to study and generate theories about the development of, and changes in, man's cultures and biological make-up.

Today three major fields of anthropology are recognized. Linguistics examines the languages of man, their variations, relationships and changes. Linguists have also been working to record the unwritten languages of the world, many of which are becoming extinct.

Physical anthropology, the second major subdiscipline, is the study of man as a biological creature. It deals with the evolution of physical forms through time, and the development of racial or other biological differences throughout the world.

Cultural anthropology or ethnology, the third division, seeks to understand the evolution and variations of the world's cultures. Cultural anthropologists specialize in one of two fields of ethnology. These are ethnography and archeology. The former studies living peoples in the world's non-industrialized societies, or occasionally the subcultures of modern nations. Archeology is the study of ancient or extinct cultures.

Although the goals of archeology and ethnography are essentially the same—the understanding of culture—the methods of each are quite different. An ethnographer can see and talk to the people whose culture he is studying. Archeologists cannot; they endeavor to interpret or reconstruct the culture of an ancient society from the objects made and used by it, and now lost and buried in the places which it once occupied.

# THE STUDY OF INDIAN CULTURES IN PENNSYLVANIA

The primary focus of this booklet is archeology and Indians in Pennsylvania, but more than that it attempts to show how we come to know something about their cultures through anthropology. An account of ancient ways of life as discovered and interpreted by all the various disciplines of anthropology is usually called a culture history. In this case it means a description of the general sequence of changes in Pennsylvania Indian cultures over the long time span during which Indians lived here. It is not a history of specific names, places and events, as we usually understand history. Such history can be known only from written records. Since our local Indians had no decipherable form of writing, a history of them written from contemporary accounts can only begin with the advent of European records about them.

An up-dated version of the history or sequence of Pennsylvania Indian cultures is depicted in a series of exhibits in the Anthropology Gallery of the William Penn Memorial Museum. The present booklet follows and amplifies to a great extent the storyline of these exhibits.

The William Penn Memorial Museum is a State-supported institution within the structure of the Pennsylvania Historical and Museum Commission. This Commission has been charged by the State legislature with the responsibility for discovering and preserving information and objects pertaining to Pennsylvania's historic and prehistoric heritage.

Interest in, or at least concern with, the presence of Indians in Pennsylvania began with the arrival of the first Europeans. Early explorers and settlers left some historical records which can be of great assistance in discerning the history of specific events as well as the general culture of seventeenth- and eighteenth-century Pennsylvania Indians. It is in this time frame, as we look back on it from the present, that archeology and history can work together most effectively in terms of understanding Indian cultures.

It was not until the late nineteenth century, long after the Indians were gone from the State, that anyone took an active interest in their archeological remains. This began with private collecting of Indian artifacts by inquisitive antiquarians.

Institutionalized archeological research had its beginning with the formation of the Pennsylvania Historical Commission in 1913. By the late 1920's its archeological work was developing a full head of steam, and since then the Commission has been the leader in studying, recording and preserving Pennsylvania's prehistoric and historic past.

The Society for Pennsylvania Archaeology (incorporated in 1931), working in cooperation with the Pennsylvania Historical Commission, became the major vehicle for organizing and promoting the work of amateur archeologists throughout the State.

Eventually other institutions began to support programs of archeological research, to the point where most of the State's major museums, colleges and universities are now contributing to the growth and development of Pennsylvania archeology.

# THE PURPOSE OF ARCHEOLOGY

Several basic questions are often asked about archeology. First, how or where is it done, and secondly, why is it done? It is hoped that these questions will be answered here.

Digging into the earth is a major part of this work, but an excavation is only one aspect of archeology. The methods of field archeology or an excavation, although exacting, are not terribly complicated. Frequently, the nature, condition or location of the things archeologists are excavating and the need to uncover these things with the utmost care can make excavation procedures rather tedious.

What results from an archeological excavation is a collection of artifacts (objects utilized by the former occupants of the site) and raw information about the place. These must be processed and used in the interpretation and reconstruction of the way of life of the people whose remains have been uncovered.

It is in these final results that we must look for the answers as to why archeology is done. Each person asking the question must view the reconstructions of these ancient cultures and decide for himself if this is worth knowing. By and large, it is a matter of appreciating knowledge, or of satisfying intellectual curiosity about past human experience. There are no more-tangible benefits to be derived from archeology.

There is some truth to the adage that we cannot understand the present or learn to cope with the future until we understand the past. But this alone is hardly sufficient justification for archeology, other anthropologies or history.

Through history and archeology we can literally begin to see, touch, smell, even taste our heritage. For many, the result of this research is simply a source of entertainment. Others may find in it a basis for romanticizing about the past. But, perhaps most importantly, it can add to that feeling of self-enrichment which comes from learning more about the world around us, especially that part of it which lies behind us.

## ARCHEOLOGICAL INTERPRETATION AND PATTERNS OF CULTURE

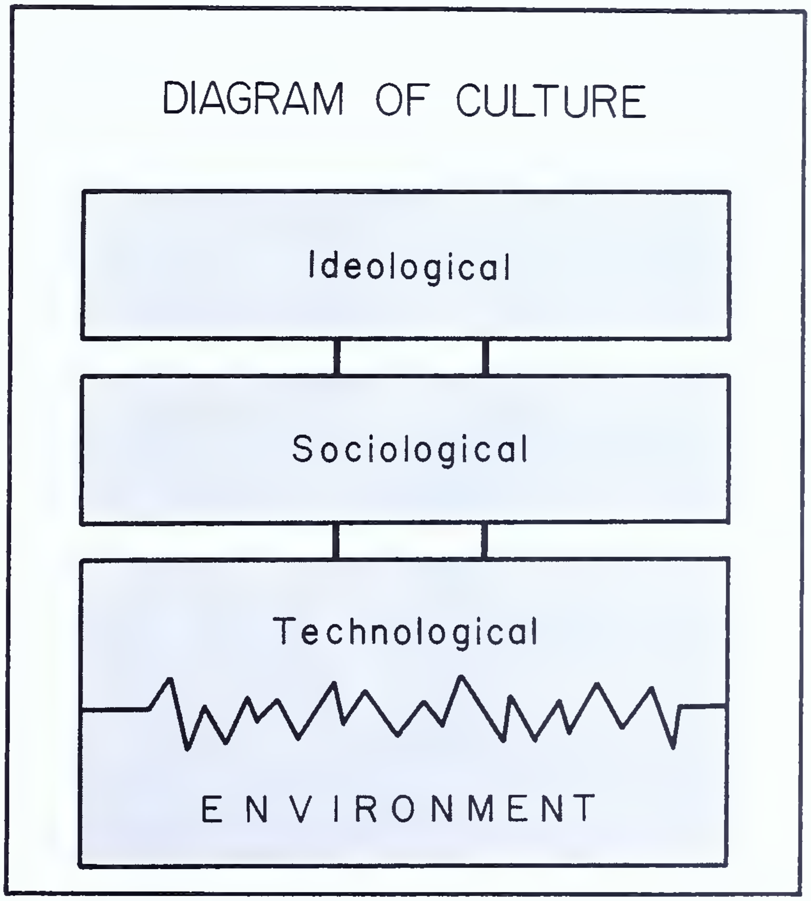
Perhaps the most difficult thing to explain about archeology is how artifacts found in the ground can tell us about the way of life of those who made the objects. An ethnographer working in the jungles of Brazil can look at a pottery vessel and rather quickly begin to understand its relationship to the people who made it and their way of life. These Indians are still using this pot.

Archeology is not linked with anthropology merely for convenience. It is a part of anthropology because it could not exist otherwise. By comparing, for example, the use and manufacture of pots by living groups, certain anthropological patterns eventually begin to emerge, patterns which become an essential part of archeological interpretations of excavated pottery. Large collections of anthropological theories and cultural patterns are being developed or contributed to by all fields of anthropology, and they are being used by all kinds of anthropologists to further understand man's activities and achievements.

There are several basic features of cultures which anthropologists have discovered and which are essential to archeological reconstructions. Most basic of these is that all cultures can be diagramed or broken down into three universal parts. The form and complexity of each part depend upon the part below it. At the top of the diagram is the ideological level of a particular culture, which includes the manner in which people attempt to understand, control or relate to the supernatural. The sociological level consists of the rules, manners or customs by which people organize themselves in order to get along with one another. Both of these parts rest upon and are greatly influenced by the technological level. This is the set of techniques used by a group to make a living.

The type of environment (e.g., desert, woodland, jungle, tundra, etc.) and the kind of technology which a group employs to provide for its needs in its environment will affect the kinds of social forms it develops. These, in turn, will influence its ideologies. For example, a society in a temperate woodland environment which provides for its existence only by hunting wild game will develop a culture quite different from one which clears the forests and farms the land.

Technologies, at least in the producing or securing of food, can be roughly categorized as hunting and gathering (of wild game and plant foods), agricultural, and pastoral. There are various degrees of efficiency or production of each of these throughout the world, just as there are various combinations of them. Naturally there are other aspects of technology which are necessary to make life secure or more comfortable. Every culture has techniques for making houses, tools, clothing, etc. We find that as the food-producing techniques become more efficient and complex, so do the other aspects of technology. We could not expect to find, for example, hunters and gatherers erecting a towering office building; nor would they need one.



The most primitive cultures of the world are those which exist by hunting and gathering. Today they are found in the world's harshest environments, but long ago such cultures existed in all of the best areas of the world. On the other hand, practically all of the most highly developed and complex ancient cultures of the world had as their technological base an irrigation system of agriculture.

The sociological level of culture can also be organized according to types. Anthropologists generally recognize four of these among the prehistoric or present-day non-industrialized cultures of the world.

## TYPES OF SOCIETIES: BANDS

At the bottom of the scale are band-organized societies. These are almost always composed of hunters and gatherers. Bands usually consist of twenty-five to fifty people who move about together in a more or less defined and restricted territory. Similar groups, perhaps ten or fifteen of them, will live in adjacent territories. All of these bands will speak the same language, and occasionally some of them will get together to exchange marriage partners and share in other ceremonies. Simple ties of blood relationships or those resulting from marriages create the code by which these folk get along together. Customs of giving and sharing freely with those in need provide a completely equal existence for everyone.

Ideologies among band societies are usually rather simple. There is a minimum of concern with the supernatural. Specially gifted individuals, such as those who have vivid dreams, or schizophrenics, may become shamans who attempt to control certain basic unknowns, such as sickness, through tricks or magic.

Examples of band societies would include the Eskimo, African Bushmen, Australian Aborigines and most ancient American Indians before the development of agriculture.

## TRIBES

Next in the scale of society types are the tribal groupings. Here we find larger numbers of people living together because their technology or their environment can support them. Sharing and equality are also characteristics of tribal folk. However, their greater numbers often make blood relationships insufficient as a basis for getting along. Marriage rules require that partners be found in, and thereby create and reaffirm ties with, a group other than one's own. Membership in a particular group, clan or lineage is often defined by elaborate methods of tracing one's kinship, this being categories of relatives with whom one customarily lives, from whom one seeks help, or whom one marries.

Frequently tribes and bands need to make group decisions or require leadership. Decisions are always made by mutual or majority consent. Leaders are chosen because of their demonstrated ability as hunters or warriors, or because of some other outstanding characteristics. They may be followed so long as they continue to be effective.

Some tribes subsisted on a hunting and gathering technology, but most tribes of North American Indians, particularly those along the Atlantic coast encountered by the first European visitors, were also agriculturists. Women were the farmers, while men were hunters and warriors.

Ideologies of tribal peoples are far more complex than those of bands. Their mythologies are full of gods and spirits who abide in many places and things. Elaborate ceremonies to placate members of the spirit world and the spirits of dead humans exist in almost every tribe.

## CHIEFDOMS

Succeeding tribal society is the chiefdom level of social organization. In cultures of this type a great diversity of resources is used and traded. Various goods and services are produced by specialists, and markets for the exchange of surplus products are made necessary. The result is a far more complex technology and society, with a breakdown of the uniform equality of individuals which characterized the bands and tribes.

A true chief, and sometimes a chief-god, becomes the most important figure in the society. Members of chiefdom societies become ranked in importance according to the closeness of their kinship ties to the chief.

As yet there is no military or police enforcement of the chief's authority to control markets and the distribution of wealth, goods and services. His authority for this rests on the recognition of his god-like status or his direct descent from some ancestral god. His badge of office centers around his exclusive rights to use, wear or possess the finest products of his society. Frequently, he is buried, upon his death, with great ceremony and in a conspicuous and elaborate grave or burial mound.

This level of social organization marks the beginning of class-structured societies. Examples among North American Indians would include many of the so-called moundbuilder cultures of the Mississippi and Ohio valleys. Most North American Indian chiefdoms were based upon an agricultural technology. Some notable exceptions are the chiefdoms among certain Indians of the Pacific Northwest coast, which were built upon extremely productive salmon and other fish resources.

## STATES

States, the fourth level of social organization, carry over many of the features of chiefdoms. The leaders or kings are descendants of a royal family. Their right to rule or control the masses is reinforced through religious beliefs and practices. Religions are directed and sometimes forced upon the masses by priests. Authority of the king as head of the government and control of the people through religion are closely tied. Again, the king may also be revered as a god, all of which enhances his authority to rule. The power of the state's leaders is legally enforced, by the church and by the king's armies or police forces. Construction of large and impressive religious and governmental buildings and monuments acts to further demonstrate and reinforce the power and authority of the leaders of the state.

Urbanization of domestic structures, markets, factories, religious centers and palaces are distinguishing features of states. People are organized in social and economic classes based upon their proximity of relationship to the ruling class, or their ability to produce or control goods and services within the economic structure of the state. Large numbers of people may be forced to work on state construction such as roads, buildings or irrigation systems.

Many prehistoric states seem to have grown and developed in association with an agricultural technology that included some form of irrigation. The interrelationships of the growth of states, large populations and environments requiring large labor forces to successfully develop a supportive agricultural system are far more complicated than can be discussed here. What is of interest, however, is that in an environmental situation, such as a desert, where a large labor force is needed to build the irrigation system required for a productive agriculture, centralized leadership and control is necessary to plan and direct the work. Classic examples of New World Indian state societies include the Maya, Aztec and Inca.

Many features of prehistoric state civilization foreshadow those of our own society. Leaders of our sociopolitical systems are ostensibly controlled and elected by the masses. However, the inequities of class-structured society and its related problems, crime, overpopulation, pollution and exhausting resources are part of the legacy of mankind's continuing efforts to improve its way of life.

Certain identifying features of these societal types may be preserved in the places where they once existed. Part of the archeologist's task is to recognize these features in order to determine the kind of society which inhabited the site he is studying. Once the basic type of society has been identified, the archeologist can begin to plug into his restoration all those other aspects of culture which anthropologists have found normally go with that pattern of life.

## CUSTOMS AND THEIR DIFFUSION

There is another basic feature of all cultures which must be mentioned here in view of its importance to archeology. This is that the technological products as well as social forms and ideologies of a particular culture at a specific time period tend to conform to certain customs. We might call this the principle of cultural uniformity. Shapes, sizes or designs of tools, vessels, houses, etc. are not usually made at random. Rather, there are definite customs or styles which all members of a culture follow for a certain period of time.

For example, automobiles made during the 1930's, although there were distinguishable models or brands, conformed to an overall pattern. This pattern, or style, is of course quite distinct from that which is being followed today.

Likewise a tribe of Indians living in eastern Pennsylvania five hundred years ago made ceramic cooking pots which all had the same shape and decorations. These were distinguishable from the pots made by a tribe in western Pennsylvania at the same period. All of these together form a basically similar type of pottery which can be readily separated from a type produced by Indians living here one thousand years ago.

To return for a moment to the automobile, we find that it actually had a long and involved history of development. However, once practical models came into production, the idea spread rapidly to many areas of the world and soon numerous manufacturers began producing their own versions. In anthropology this spreading of new ideas or inventions is called diffusion. This process of spreading and or borrowing ideas has been going on between cultures since the beginning of human existence. Not every culture borrows everything to which it is exposed. Frequently when an item is borrowed it is not put to exactly the same use. For example, the Chinese who invented gunpowder used it primarily to make firecrackers, but the Europeans who borrowed the idea used it to propel missiles from guns. Diffusion has added to the growth and complexities of the world's cultures. However, ideas or products change not only through diffusion, but also grow through their own evolution or improvement. Consider for a moment the evolution of explosives from the Chinese use of gunpowder for firecrackers through their use in the development of guns, and ultimately to the development of combustible fuels to drive rocket ships into outer space.

With this background we can return to the earth to discover what secrets it holds for archeologists to unravel about ancient cultures which once flourished here.

## EXCAVATION OF A SITE

Almost invariably a person visiting an archeological excavation for the first time will ask, "How do you know where to dig?" Any place where there are preserved remains of human activities is a potential site for archeological investigation. These might be the leftovers from an animal kill by a band of hunters and gatherers or the debris from a large tribal village.

Indians usually lived on and used the best and most convenient land, as there was comparatively little competition for camps or village sites. Villages were generally located on elevated, gently sloping land near water, especially where several streams came together. Hunting and fishing camps were situated wherever fish and game were most abundant or where natural shelters existed.

Sites are located through the discovery of artifacts on the surface of plowed fields, or in eroded gulleys or river banks. Sometimes new sites are discovered by archeologists who are intentionally looking for artifacts. But more often they are found by people who accidentally come upon them.

Preliminary test holes in a site will determine both the potential value of full-scale excavation, as well as the most favorable areas at which to begin. Once it has been decided that the excavation of a particular site is essential, or that it will yield useful archeological information, plans can be made to begin the project.

Arrangements need to be made for permission to undertake the excavations. In most cases sites are on private land. It should be noted that sites are not always selected for excavation merely because they contain valuable archeological information. In fact, today they are more frequently excavated both because they are important and because they are threatened with destruction. Actually, in many cases, archeologists would prefer to see sites left untouched if there is no pressing need for their excavation. Unfortunately, modern urban expansion, industrial development, river impoundments, highways, etc., are destroying sites at a rapid rate. The work done to save the information from such threatened sites is obviously salvage archeology.

Recent federal laws require that an attempt be made to determine in advance of any federally funded or licensed construction projects their effect on archeological sites. If the destruction of sites cannot be avoided by such projects, federal funds can be made available to finance salvage archeology.

Archeological excavations are usually undertaken by qualified persons from museums, universities and other institutions. It is their responsibility to employ or secure the volunteer services of a field crew. Size of the crew will depend upon the nature of the site and the time alloted for its excavation. The archeologist must organize and direct the work, making certain that the best and most careful techniques are utilized and that all information is properly recorded.

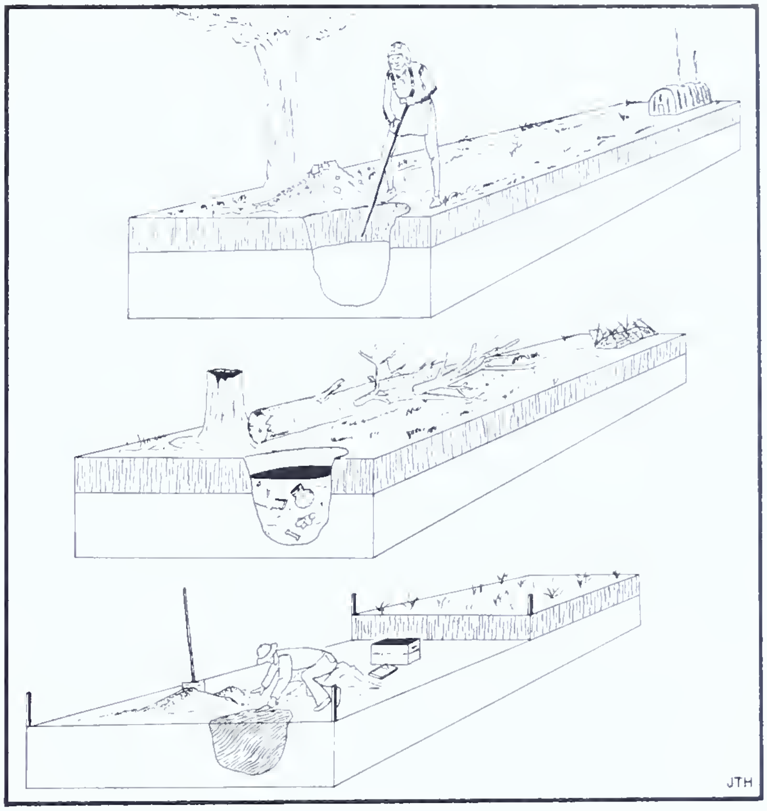
## KINDS OF ARCHEOLOGICAL SITES

Archeologists work at sites which fall into either a prehistoric or historic time frame, or both. The dividing line between them occurs at different time periods, depending upon where one is working. The historic period begins with the advent of written records about a site or with the first European contact.

In eastern Pennsylvania we might consider Indian sites to be in the historic or colonial period after 1600 A.D. Historic archeological sites would also include any building or place utilized by colonial immigrants and settlers in this country. Such sites might involve the excavations of building foundations, wells, privies, refuse pits, cemeteries, roadways, etc. Naturally, the archeologist working on a historic-period site, either colonial or Indian, would take advantage of any written documents about the place or period which he is studying.

The basic methods employed in excavating either a historic or prehistoric site are more or less the same. But, each may involve problems not encountered at the other. Our focus of attention will be largely on the techniques and results of excavating Indian sites, both prehistoric and historic.

In Pennsylvania there are two major kinds of Indian site, and each requires its own specialized archeological techniques. A third type, but one which is rarely encountered in Pennsylvania, involves the excavation of burial mounds.



*Origin of an archeological feature*

## NON-STRATIFIED SITE

The most common type of site is non-stratified. This means that there are no buried levels or living surfaces within the site. The Indians lived on essentially the same surface that we would walk on today. However, since most sites are on farm land, the Indian's living surface has been plowed through many times. Consequently the tools, pottery and other non-perishable objects of his culture have been broken and drastically moved about. These artifacts tell us that a site exists there, but any meaningful relationship of one object to another has been largely destroyed. Artifacts will be found in this kind of site anywhere from the surface to as deep as the farmer's plow has gone—usually twelve to eighteen inches.

This depth of soil which is turned by the farmer's plow is called topsoil or the plow zone. Usually it is brown to black in color because of the organic material mixed with it. It may vary from a few inches in depth in land which has never been plowed to about eighteen inches in fields where modern farmers are using deep-bottom plows. Beneath the dark topsoil layer there is a lighter-colored, sterile, non-organic material called subsoil.

What the archeologist is digging for in such places is not so much the broken and scattered artifacts of the plow zone, but rather something which can be found just below it in the subsoil.

Indians dug holes into the ground for many purposes, for storage, fire pits, refuse, posts, burials, etc. Usually these holes were dug deep enough so that they went down into the subsoil. Burial pits would have been refilled almost immediately. On the other hand, a storage pit might stand open for a long time, eventually to be filled with debris or with soil washed into it by the rain. In any event, the soil which goes back into the hole is largely the dark topsoil or a mixture which includes some subsoil.

Archeologists refer to these holes as features or subsoil disturbances. When the topsoil is removed by the archeologists, sometimes with a bulldozer, any Indian-dug holes can still be recognized in the lighter-colored subsoil. The darker soil with which they were originally filled is still visible, thus preserving the size and shape of the bottom portion of the holes.

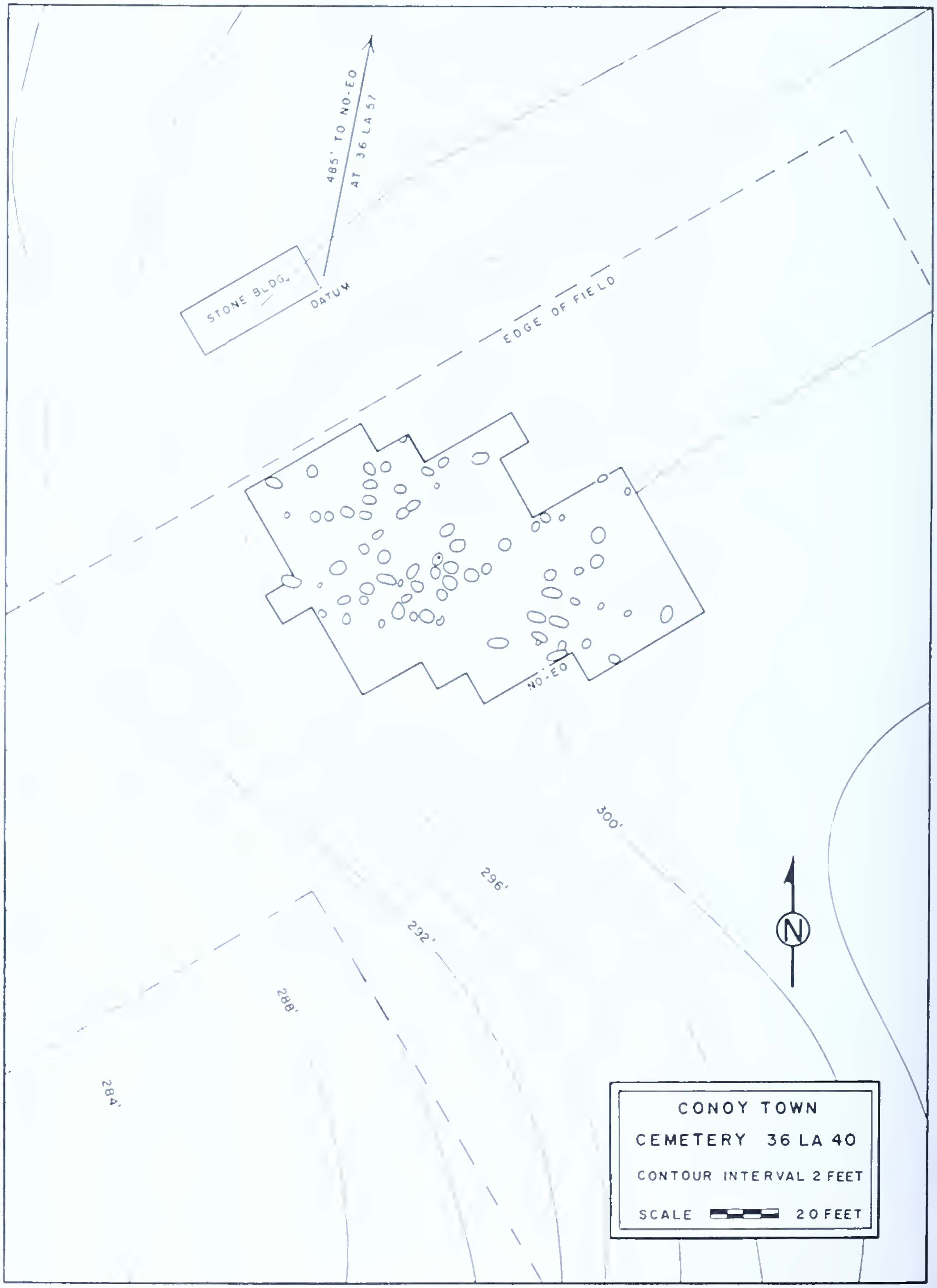
That portion of the hole which is in the subsoil is undisturbed by the farmer's plow. This is what the archeologist is seeking—a place where artifacts and their associations of one to another are still as they were left by the Indians who made and used them.

It must be remembered that the purpose for excavating a site is not just to find artifacts, but rather to discover what it can reveal about the way of life of the people who once occupied the place. Archeologists usually find only meager traces of former cultures. Frequently it is not immediately evident what clues an artifact or a feature may provide for this reconstruction. After the excavation is complete and all of the artifacts, features and field notes have been analyzed, things may begin to fall into place and make some sense. This is why everything recovered from an excavation must be carefully recorded as to exact location and association with other things.

In order to insure that every find can be accurately recorded, a site is laid out in numbered excavation squares. Each artifact and feature is labeled or mapped according to the number of the square in which it was found.

Generally, wooden stakes are used to mark the corners of a five-by-five-foot or ten-by-ten-foot (sometimes the metric system is used) excavation square. If the site is to be totally excavated by hand, the squares are laid out with a surveyor's transit before the excavations are

*An archeological excavation map of an Indian Cemetery site*



begun. On very large sites the archeologist may decide to remove the topsoil with a bulldozer. In this case the site would not be laid out in squares until after the topsoil has been taken off.

Pits, burials and postmolds are the three most important features encountered on Indian sites in Pennsylvania.

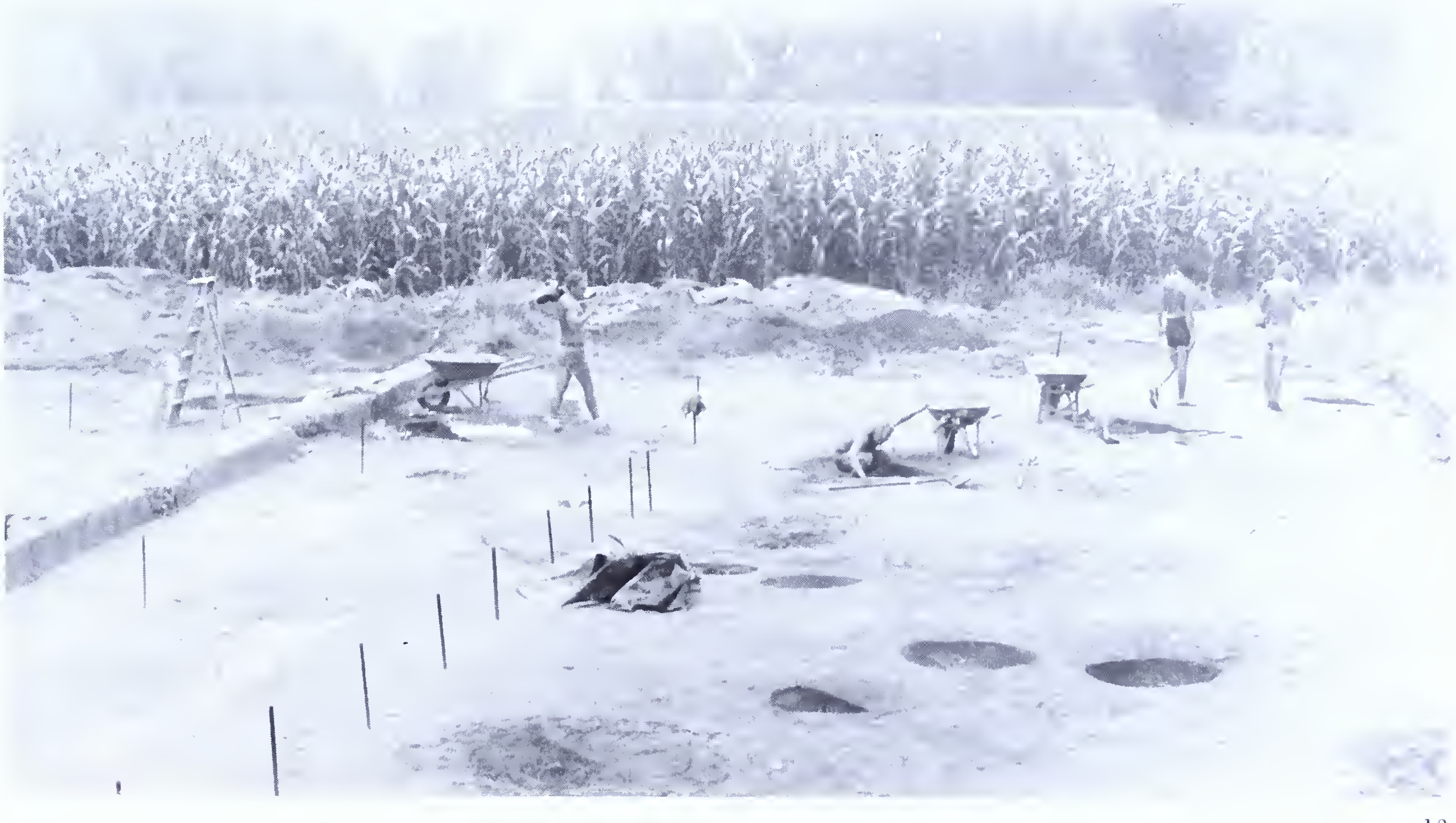
Storage pits were used to cache certain kinds of foods. Sizes of these pits vary considerably, from a few inches into the subsoil with diameters of twelve inches or less, to ones more than five feet across and five feet deep. Shapes of the pits are often characteristic of a particular culture. Some groups of Indians dug storage pits in the shape of a bell, that is, the bottom was wider than the mouth of the hole. Other groups dug pits that were primarily bowl-shaped. One group of Indians in eastern Pennsylvania used very irregularly shaped holes for this purpose. Among some Indian cultures a shallow pit lined with grass and bark served as a bed.

Although many of these features were originally places for storing food stuffs, some may have had other functions. In any case, the pits eventually became unusable for their intended purposes. When this occurred they were used as garbage pits, or filled up, or perhaps just abandoned and allowed to fill by natural processes. As the holes were filled artifacts lying on the nearby surfaces might be pushed or washed into them.

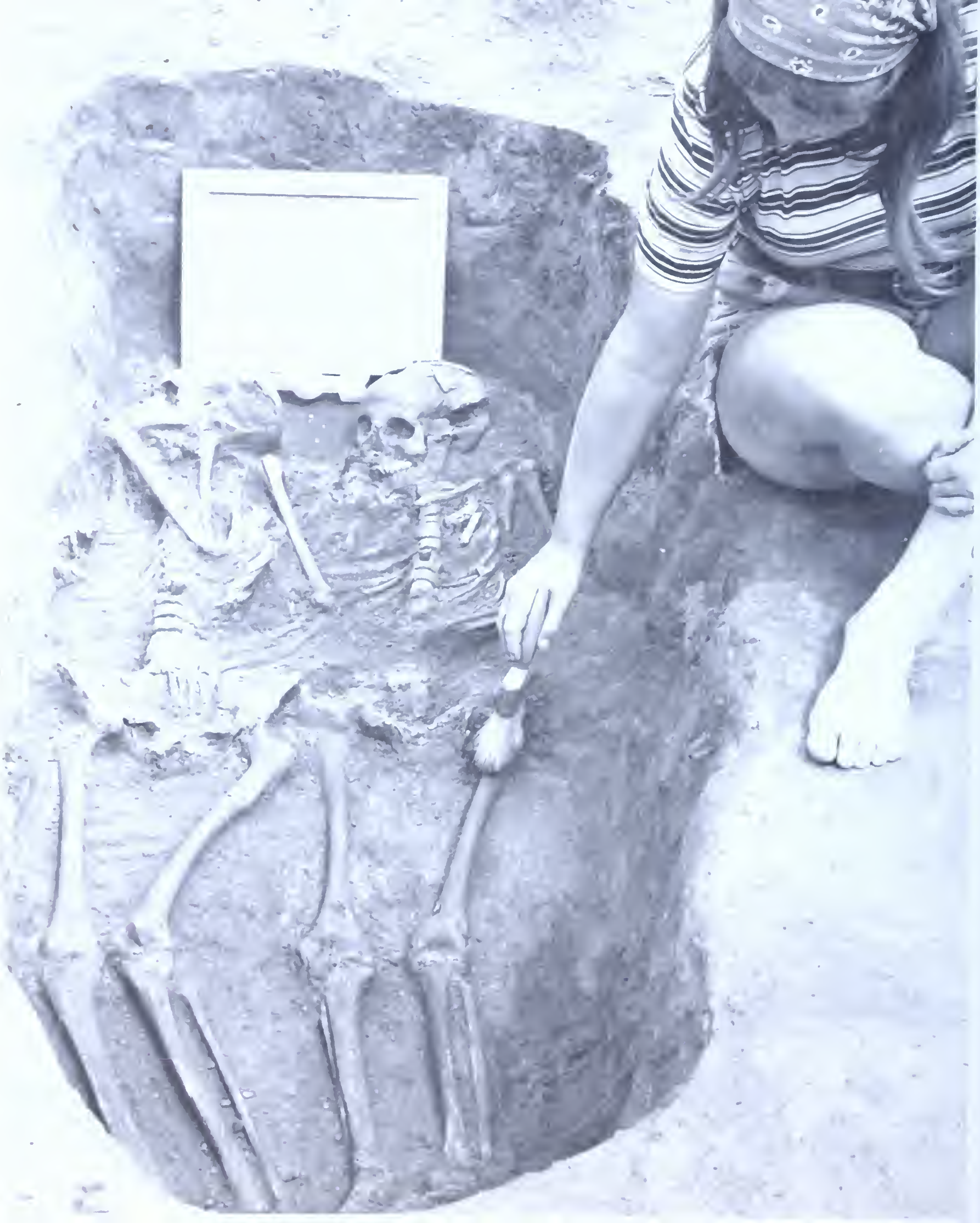
Shapes, sizes, orientations and places of burial pits also vary from one culture to another. Among some groups interments are in holes which resemble storage pits. Others may use bathtub-shaped holes, narrow trenches or large ossuary pits where the bones of many individuals have been buried. Burial mounds are another type of interment, but these are visible as aboveground features.

Body positions and grave offerings also vary. Some Indians buried their dead in their house floors, while others may have used regular cemeteries outside the villages.

Common burial practice in Pennsylvania included flexed— with arms and legs drawn up against the body—and extended body positions. Among certain Algonkian-speaking Indians the body was allowed to decompose above ground, and then the bones were collected in a package and interred as a bundle burial.



*Excavation of a site in Bradford County after the topsoil has been removed with a bulldozer*



Burials provide the archeologist with an opportunity to look into certain ideological (religious) aspects of ancient cultures as well as to study differences in cultural patterns. Burials also produce a wide range of material items (artifacts), which elsewhere in the site might be broken or not recovered at all.

Careful examination of the skeletons by physical anthropologists can reveal the age, sex and stature of individuals, as well as pathologies and, at times, the cause of death.

The third and smallest, but perhaps most important, features encountered in many excavations are postmolds. Holes in which to set posts were punched into the ground with a pointed digging stick. These holes were made almost the same size as the pointed end of the post to be placed in it. A minimum of tamping around the post would secure it in place.

This kind of post construction was used for house frames, stockade walls, racks and other structures. Eventually the posts would rot away. The resulting cavities would then become filled with decayed wood, dirt and artifacts washed into them from the surface. This dark fill in the bottom of the hole where it penetrates the subsoil becomes a mold of the original post hole (thus the term postmold), which can be seen by archeologists hundreds of years later.

By exposing large areas containing postmolds the archeologist can begin to follow the outlines of houses, stockades or any structure made of posts. This could enable him to determine the total size of a village enclosed by a stockade, house sizes and shapes, and the number of houses within the stockade. All of this information could, in turn, lead to population estimates for a town or village.

Non-stratified sites of the type being discussed here were sometimes occupied by a number of separate Indian groups at different time periods. Since there is no build-up of soil on such sites, each group would have lived on essentially the same surface. Pits, burials and postholes might well be dug into or next to those left by earlier inhabitants of the site. Each separate occupation, and its archeological remains and features, is referred to as a component. Multi-components at one site make archeological interpretations more difficult because of the problems of separating the features and artifacts of one group from the other.

*Careful excavation of a double extended burial at a site in Lancaster County*

## STRATIFIED SITES

In another type of archeological site the problems of multi-components or successive occupations may not be as difficult to work out. A stratified site is composed of more than one level or layer of soil, each of which may contain artifacts from separate occupations or components. Stratified sites result from the fact that soils or debris are somehow being deposited or built up at that particular location.

In some areas of the world this build-up is a result of long periods of occupation at one place, where human debris continues to accumulate over the levels of earlier settlements. Classic examples are the so-called "tells" of the Middle East.

Most Pennsylvania stratified sites result from two natural phenomena. An Indian site which was located on a low river terrace that was subject to periodic flooding could become buried by deposits of water-carried silt. A group of Indians settling this same place at a later time would have occupied a surface somewhat higher than the previous inhabitants. This process could have been repeated many times.

Another place where deposits or layers can accumulate is under an overhanging rock ledge. Natural rock shelters of this sort provide a measure of comfort and protection from the elements. They were widely used by Indians, especially as temporary hunting and fishing camp sites. Depending upon the type of rock of which the overhang is composed, particles of rock might break away from the roof and fall to the floor of the shelter at a more or less constant rate. This too would result in a layered succession of living floors of Indian groups who used the shelter for hundreds or even thousands of years. The oldest or earliest remains are of course in the deepest strata.

Methods for excavating a stratified site differ somewhat from those used at a non-stratified locality. Areas to be excavated are again laid out in squares so that the horizontal position of each find can be recorded. However, in this kind of site it is also essential to note the depth or level of each find. Depth measurements are all taken from a fixed location called a datum point.

If each successive layer of soil or rock was deposited on a level plane, every object from say forty inches below the datum point would have been left there at approximately the same time. However, if the living surfaces were sloping, as is frequently the case in rock shelters, the artifacts from a single occupation of the site would be at different depths below the datum, depending upon their location on the sloping surface.

In this case the archeologist must attempt to follow the sloping surface of each living floor as he excavates. All of the objects from an individual floor must be recorded together regardless of their depth below datum.

## STAGES OF CULTURE IN A STRATIFIED SITE

Stratified sites provide a unique opportunity to find sequences of artifacts and features from separate time periods all at one site. These materials can be dated in terms of relative chronologies. That is, the cultural objects of one stratum are older than those from levels above it.

Rarely are stratified sites found and excavated which contain artifacts from all of the cultural periods that ever existed in the region of that site. For one reason or another some groups may never have used a particular site in their region. After having excavated a number of stratified sites in this region, it might be possible to work out the relative chronologies of all the stages even though not all of them were represented in each site.

For example, if we excavated four stratified sites in central Pennsylvania, we might find the following sequences of distinct cultural stages:

| | Site 1 | Site 2 | Site 3 | Site 4 |
|---|---|---|---|---|
| Youngest | D | | D | F |
| S T A | C | D | F | C |
| G E S | B | E | C | A |
| Oldest | A | B | E | G |

Because this is a relatively small area and because of the principles of cultural uniformity, we can presume that the artifacts from the various sites which are similar represent occupations by the same culture or group at roughly the same time period. Based on this reasoning the stages which appear to be similar at each site have been given the same letter identity.

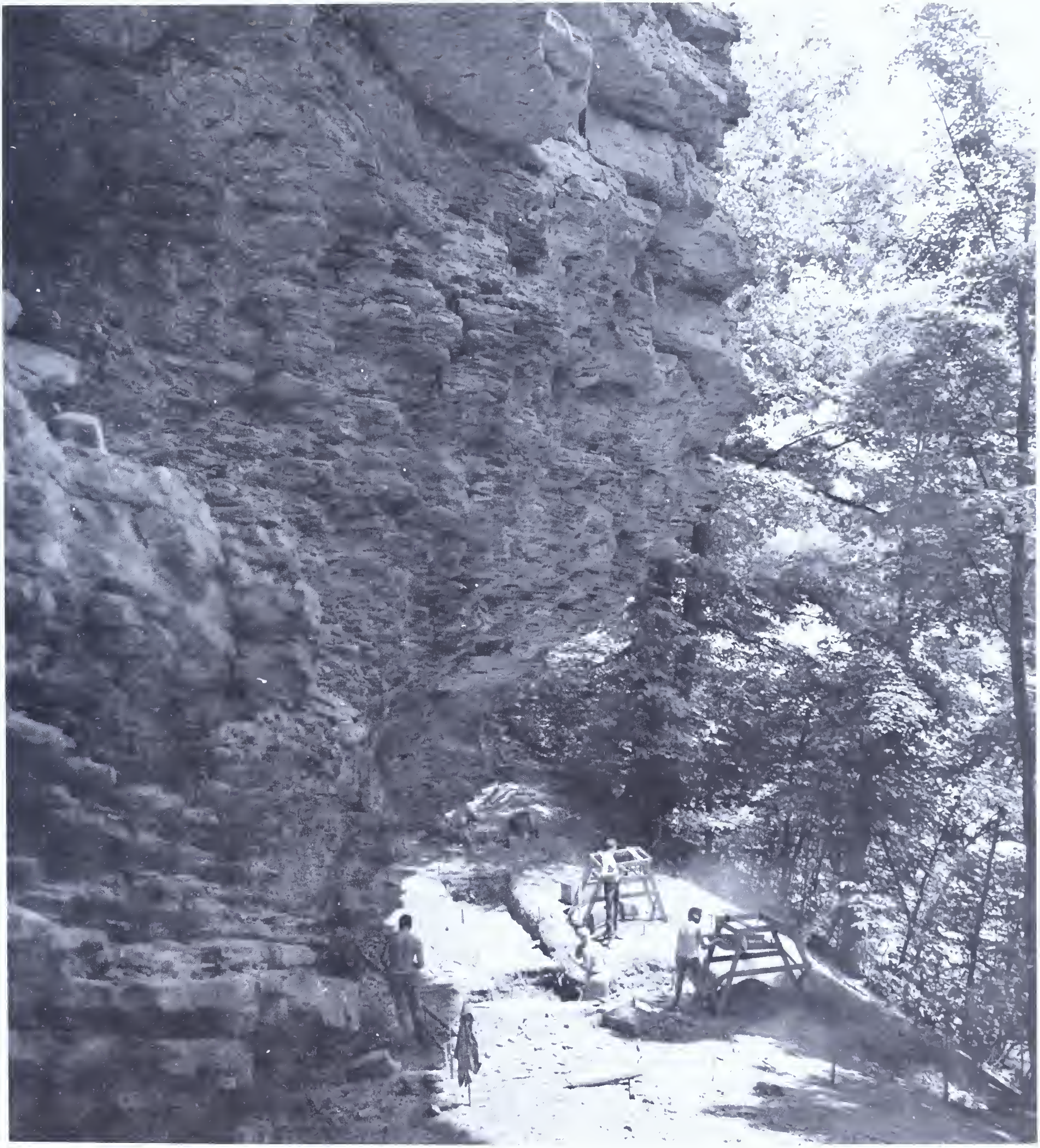
At first glance it is difficult to tell which of the seven lettered stages is oldest and which is youngest. We cannot expect that each stage will be at the same depth below the surface in each site, because of the different rates at which soils are deposited or built up.

After studying the stratigraphic profiles, as they are called, for all of the sites, we can see that Stage G artifacts precede those of Stage A in the one site where they both occur. At site #1 Stage A precedes Stage B. Similarly we can eventually see that Stage B comes before everything else. Ultimately the total relative chronology for all of these sites can be worked out and we find the following overall sequences from earliest to most recent: G - A - B - E - C - F - D.

Let us assume for the moment that each of our lettered stages was based upon particular shapes of chipped-stone projectile points, or types as they are called by archeologists. In one of these sites we found that the projectile point type of Stage D occurred in definite association with a particular shape of pottery vessels. We can logically add this as part of the total culture of Stage D.

With Stages F and C other types of pottery were found and so they can be included as part of the cultural inventory of those stages. No ceramics were found with Stage E projectile points, but there were bowls carved from soft soapy-feeling stone. Grooved stone axe heads were recovered with Stages B and A. Another ungrooved axe form occurred with D and F. In the deepest levels where Stage G points were excavated, the only other artifacts found were slender knives and peculiar-looking scraping tools.

As all of these items are added to the list of cultural remains for each stage, we get a more and more complete picture of the way of life of each successive group of people responsible for these objects.



*View of the excavation at the Sheep Rock Shelter in Huntingdon County*

## DATING

At this point we have a relative chronology for each set of tools—we know which were the first, the middle and the last to be left in the sites. There is a way in which we can discover more-absolute dates for some or all of the stages.

Any organic materials such as bone, wood, charcoal or shell which are found directly associated with the tools of any stage have the potential for giving us a fairly precise date. The technique for discovering the age of these specimens is called Carbon 14 dating. This procedure, developed by a physicist, is based on the fact that all living things take in certain radioactive isotopes from the atmosphere. When the organism dies these isotopes begin to decay. Moreover, they do so at a known rate. Half of a fixed amount of the radioactivity will be gone in 5,568 years. The amount of radioactive Carbon 14 in any given specimen can be measured with a Geiger counter-like instrument and thereby the date at which the organism died can be determined. Thus, the C 14 dates can also be added to the list of information about our various cultural stages.

## OTHER SOURCES OF EVIDENCE

Non-stratified sites also contribute greatly to this list. For example, we might find a single-component site which produces Stage D artifacts. Graves excavated at this site produced some European-made objects.

A Stage F site is discovered to be a large stockaded village with numerous postmold patterns of long parallel-sided houses, with evidence of corn, beans and other cultivated crops in the storage pits.

Stage B non-stratified sites are always found to be small, consisting of no more than three or four circular houses. There is never any evidence of cultivated crops, but always large quantities of fish and animal bone.

Specimens which are brought into the laboratory from field excavations must be cleaned, repaired, preserved and catalogued. Catalogue numbers placed on each artifact serve to identify the specimens and relate them to pertinent field notes. We have already seen the importance of knowing the precise original location of each artifact.

Eventually, the artifacts, notes on field observations, photographs and drawings of features are all examined and considered individually and together. Studies by other specialists such as botanists, zoologists, geologists, physicists, historians, etc. are also added to the growing picture. Palynologists, for example, through microscopic examination of soil samples from sites or levels within sites can identify various plant pollens. These in turn can be used to reconstruct the climate and vegetation of a particular time period or cultural stage.

All of these avenues of investigation are important to archeological reconstructions. They lead initially to a recreation of the environment and the technological aspects of the various ancient peoples being studied, and ultimately to a more complete portrayal of their culture.

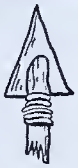
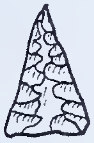
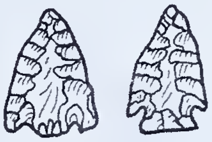
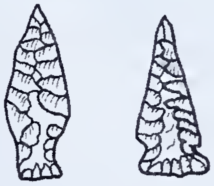
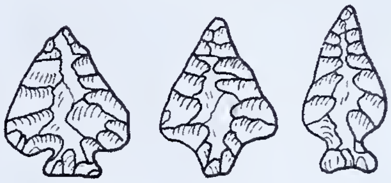
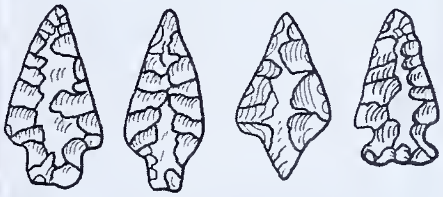
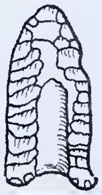
Using all of this evidence together with ethnographic comparisons with known or recorded societies, we might be able to demonstrate, for example, that the peoples of our Stages B and A were band-organized hunters and gatherers, living in a somewhat colder climate, or that Stage F artifacts are the remains of a populous tribal society which lived in large palisaded towns and subsisted on agriculture.

## INDIAN TECHNOLOGIES AND RAW MATERIALS

At this point it is no longer necessary to continue with our hypothetical examples of archeology and cultural reconstructions. We are now prepared to examine actual archeological remains and sequences of Pennsylvania Indian cultures. To begin we will look at some of the basic technologies used by Pennsylvania Indians to secure a living from their environment. It is difficult for us today to imagine having to make everything we use, wear or shelter ourselves with. It wasn't too long ago in this country when many rural families were nearly self-sufficient, but even then certain tools or raw materials had to be purchased from some other specialist. In prehistoric times virtually every Indian family was totally self-sufficient, both in terms of manufacturing everything it needed as well as securing the necessary raw materials.

Food, of course, is the first priority, and as we have seen the techniques for securing or producing it changes as time went on.

The manufactured needs of our local Indians were quite simple, and all of the material could be secured from nature. Botanical materials—plants and trees—provided wood for burning, building and carving; parts for tools; bark for house and canoe coverings and containers; and fibers to make cordage for tying and weaving.

| CULTURAL PERIODS | DATES | PROJECTILE POINTS | OTHER TOOLS |
|---|---|---|---|
| **COLONIAL** (Susquehannocks and other Historically recorded Tribes) | 1760 A.D. -<br>1550 A.D. | Guns  Brass Arrowheads | Natives tools replaced by European equivalents-- |
| **LATE WOODLAND** (Mississippian) | 1550 A.D. -<br>1000 A.D. |  | Great variety in pottery and pipe forms and decoration--<br>celts--<br>varieties of bone tools--<br>bow and arrow--<br>stone hoes-- |
| **MIDDLE WOODLAND** (Hopewell) | 1000 A.D. -<br>500 B.C. |  | pottery--<br>celts--<br>pipes--<br>gorgets-- |
| **EARLY WOODLAND** (Adena) | 300 B.C. -<br>1000 B.C. |  | Earliest ceramic vessels--<br>gorgets--<br>¾ grooved axes--<br>earliest smoking pipes-- |
| **TRANSITIONAL** | 800 B.C. -<br>1800 B.C. |  | Soapstone bowls--<br>stone picks for working soapstone-- |
| **ARCHAIC** | 1000 B.C. -<br>7000 B.C. |  | Full and ¾ grooved axes, adzes--<br>atlatl (spear thrower weights)--<br>mullers, pestles, mortars for grinding seed and nuts--<br>stone drills--<br>choppers-- |
| **PALEO - INDIAN** | 7000 B.C. -<br>10,000 B.C. |  | Small chert scrapers for working hides--<br>gravers for drilling small holes or engraving bone--<br>knives-- |
| **OLD WORLD UPPER PALEOLITHIC CULTURES** | | | |

*Sequences of cultural stages*

Animals provided several important raw materials. Bones and antlers could be carved into a variety of ornaments and tools, such as needles, awls, punches, scrapers, fish hooks, handles and projectile points. Fur and skins were used for clothing, house coverings, containers and other tools.

Shells were cut, polished and drilled to produce ornaments, cups, spoons and even knives.

Beginning about the time of Christ, or a little before, our local Indians used clay to fashion pots, pipes and ornaments. The resulting shapes would be fired into hard and fairly durable ceramics.

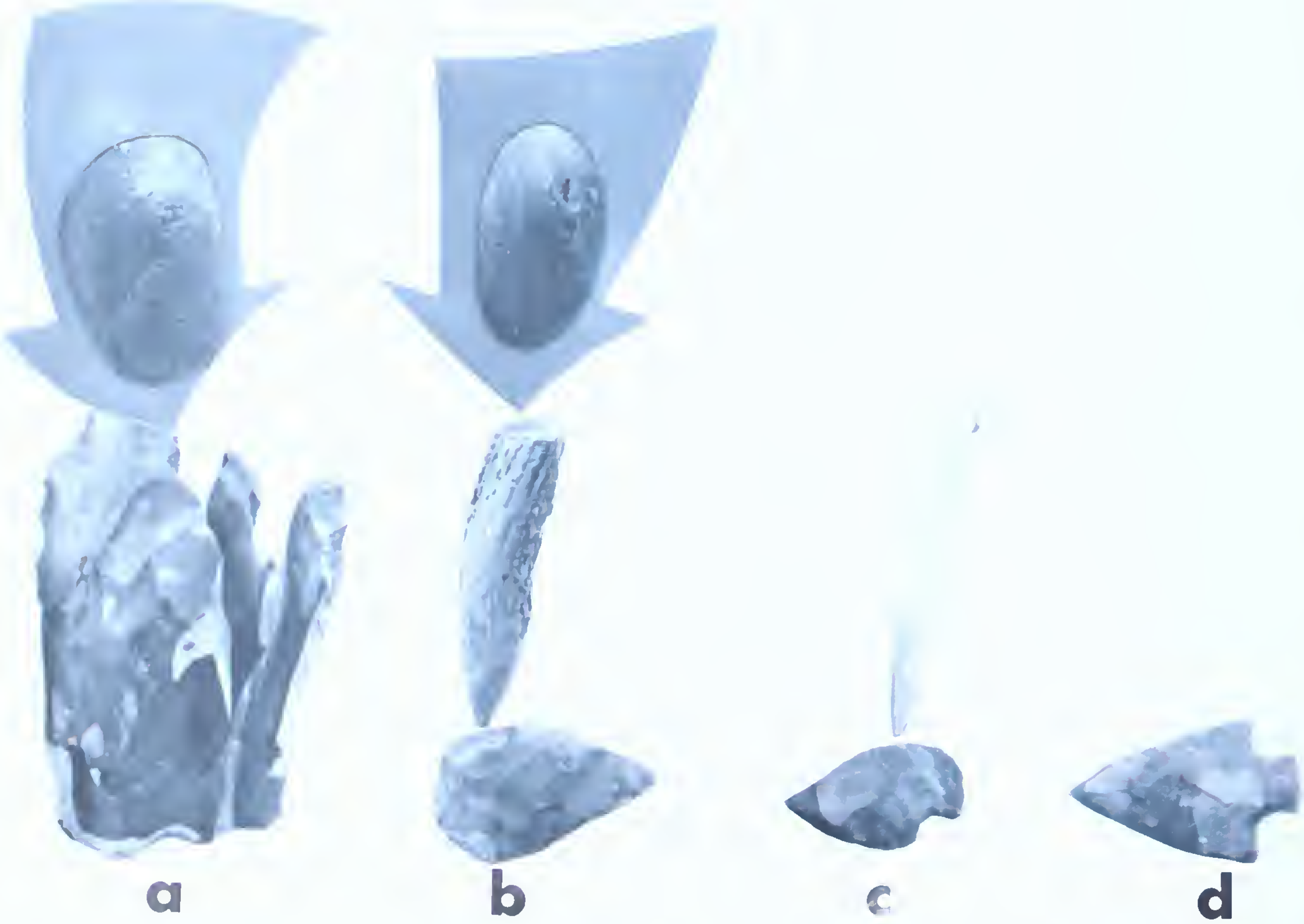
*Procedures for chipping a projectile point:*

*(a) large flake is broken from a block of flint with a hammerstone*

*(b) rough form is chipped out by indirect percussion using a piece of antler and a stone hammer*

*(c) the notches are formed by applying direct pressure with an antler tool to press off smaller flakes*

*(d) the finished point*



# STONE TOOLS

By far the most durable and most frequently encountered Indian tools are those made from stone. Certain kinds of stones, or lithic materials as they are called, can be chipped, cut, polished, pecked, ground or drilled into useful shapes.

Items made of stone formed the basis of the Indian's tool kit. Arrowheads and speartips were of great importance in killing game. Chipped stone knives, of course, had a myriad of uses, from skinning and butchering animals to cutting and carving plants, wood and bone in order to make other tools. Stone axes and gouges were used for cutting and working larger pieces of wood. Projectile points, knives, scrapers and drills were made from stones which have a property known as conchoidal fracture. Such stones include chert, which occurs throughout the State, and jasper, quartz, quartzite and argillite, found primarily in eastern Pennsylvania. Another important Pennsylvania stone which was widely used by the Indians is the bluish-gray rhyolite from Franklin and Adams counties.

Conchoidal fracture means that when these stones are struck in the proper manner with a stone hammer, they will break along curved surfaces. The resulting chips or flakes have a shape resembling the outside surface of a clam shell.

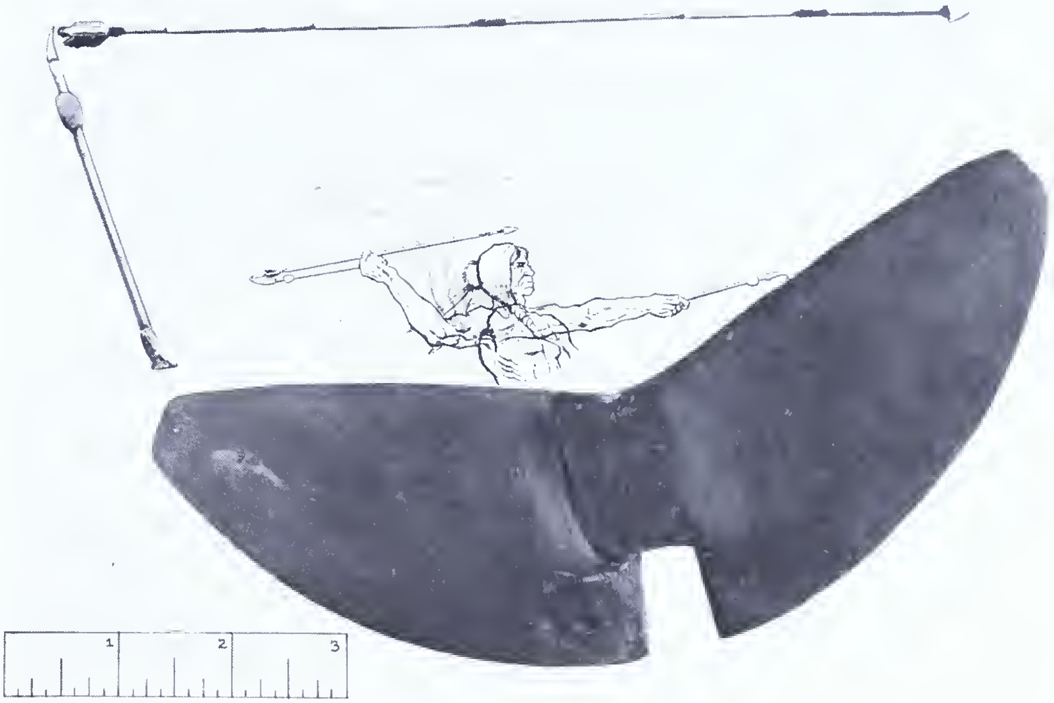
Other stones are more likely to break along angular or straight lines, making it difficult or impossible to chip them into a desired shape. Stones with conchoidal fracture, like glass, also produce hard, sharp edges when they are properly chipped with a hammerstone. Sharp edges for cutting, jabbing or scraping were what the Indian was trying to achieve. But in addition to the cutting edge he also attempted to produce, according to the principle of cultural uniformity, an overall shape for his tool which was customary for his society.

Other hard stones without conchoidal fracture could be made into various cutting tools. For example, grooved axes of siltstone, granite or other similar types of material were made by roughly chipping river cobbles into shape. The next step required pecking with a hammerstone, which slowly and deliberately crushes the surface of the stone. Eventually, the proper shape is achieved. The final step involved rubbing the cutting edge of the axe on a rough abrasive stone to polish and hone the edge. The groove around the axe, by which it was secured in a wooden handle, was also made by the pecking process.

One of the most curiously shaped stones made by certain of our local Indians is called the bannerstone, or atlatl weight. These were usually made of slate or other fairly soft stones. As with the axe, the shaping processes involved chipping, pecking and polishing. The desired form was a wing-shaped object, through the center of which a hole was drilled.

For years the use of these stones was only surmised by collectors and archeologists. Many thought it was carried on a staff as a symbol or banner of office or authority, thus the name bannerstone.

Finally in the 1940's archeologists working in Kentucky and Tennessee began to find bannerstones in graves where their holes were lined up with an antler hook at one end and a handle-



*A bannerstone and its use on a spear-thrower* shaped piece of antler at the other. By placing all of these parts on a wooden shaft, the archeologists came up with an object which resembled the spear thrower used by the Eskimo or the atlatl recorded in Spanish accounts of the Aztecs. The weights or bannerstones used by North American Indians apparently served to impart more force to the spear when it was propelled by the spear thrower.

This interpretation of the weighted spear thrower has since been verified by the discovery of ancient petroglyphs, or rock carvings, which show Indian figures using the tool.

## INDIAN ARTISANS

Most Pennsylvania Indians used raw materials which occurred in the areas where they lived. However, some materials were available only in limited areas. Steatite, for example, a very soft, soapy-feeling stone from which bannerstones, bowls, beads and pipes could be carved, occurs primarily in southern Lancaster County. However, soapstone (or steatite) artifacts dating from various time periods are found scattered all over the State.

Some Indian cultures and certain individuals had a flair for certain raw materials, such as Lehigh County yellow jasper or Adams County rhyolite, for which they traveled or traded over great distances. This was the exception rather than the rule for most Pennsylvania Indians until the time the Europeans arrived. By then trade for all sorts of things began to flourish.

The occasional quest for better materials in earlier times is partially related to the artistic flair of individuals. Perhaps one out of a hundred spearpoints found at a particular site will be unusually well made or of some beautiful and exotic stone. As in any time period certain individuals became better or more artistic craftsmen.

Among the Indians these artistic differences must have appeared in woodworking, basketry, sewing, etc. Unfortunately, we rarely find these kinds of things preserved in our archeological sites. But we can certainly see individual differences in some of the stone tools, and especially in the pottery vessels and pipes. Because clay is easily shaped and decorated, it is a perfect medium for displaying individual artistic talent.

Fortunately for the archeologists trying to learn about these tools and their sequences of development, most Indians, even the most artistic, usually adhered to the principles of cultural uniformity. Some may have taken artistic license in shaping and decorating pots or other items, but usually it was within the bounds established by the customs of a particular time period or culture.

*A four hundred-year-old bark basket from the dry levels of the Sheep Rock Shelter in Huntingdon County*

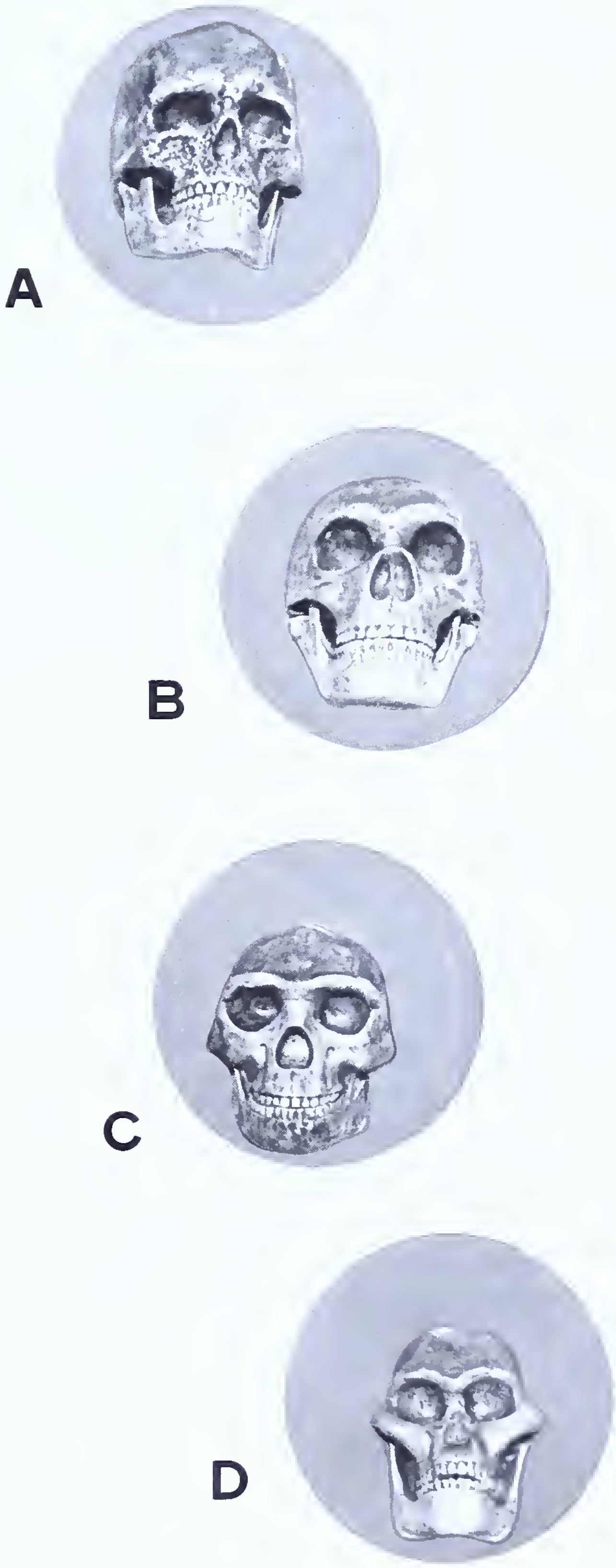
# The Culture History of Pennsylvania Indians

## OLD WORLD BACKGROUND

The ancestry of the American Indian, like all peoples living today or in the past, can be traced to a common evolution of mankind reaching back almost two million years. The cradle of mankind would appear to have been in Africa, or perhaps southern Asia. From the point of his beginning man spread to other areas of the world, slowly changing his physical form and culture through the processes of evolution.

At least twenty thousand years ago a physically modern form of man known as *Homo sapiens*, who possessed certain basically mongoloid features, was living in northeastern Asia. These people were hunters of migratory game animals and collectors of limited wild-plant foods. Old World archeologists refer to their cultural remains as the Upper Paleolithic tradition.

The climate of the northern hemisphere during this period was extremely cold. Much of the area was covered by enormous bodies of ice known as the Würm and Wisconsin glaciers. The great volume of water trapped on the land in these sometimes mile-high blocks of ice caused a reduction of the sea level, which, in turn, exposed a land bridge in the shallow waters of the Bering Strait between Siberia and Alaska.



*Man's physical evolution:*

| | | |
|---|---|---|
| *(a)* | *Homo sapiens or modern man first appears in the fossil record about thirty-five thousand years ago, and in association with stone tools of the Upper Paleolithic tradition.* | |
| *(b)* | *Neanderthal man* | *100,000 B.C.* |
| *(c)* | *Homo erectus or Pithecanthropus* | *600,000 B.C.* |
| *(d)* | *fossil skull of Australopithecus* | *1,750,000 B.C.* |

## FIRST AMERICAN INDIANS

Now the avenue was open for man to continue spreading out over the face of the earth. That initial group of Upper Paleolithic hunters and gatherers who followed the wandering game herds across the land bridge into Alaska became the first American Indians.

Archeologists usually set the date of their arrival in the New World between fifteen thousand and twelve thousand years ago. Subsequent generations of these people eventually occupied all of North and South America. We call these first inhabitants of the New World the Paleo-Indians, and at least eleven thousand years ago their descendants had reached what is now Pennsylvania.

Archeological studies of the Paleo-Indians suggest that they continued to hunt migratory animals. They rarely settled in one place for very long, and they had a form of what we have already described as a band-organized society.

Their total existence was greatly affected by the cold climate of the late glacial period. Geologists and palynologists have shown that much of Pennsylvania's environment was greatly altered as a result of this frigid climate. Hardwood forests as we know them today could not exist; instead scattered stands of arctic spruce and fir trees dotted the landscape. Not too far to the north and at the edge of the great ice sheet, there was tundra vegetation like that now found in the Canadian arctic.

Caribou and musk ox are well suited to this kind of environment, and these creatures, plus an occasional woolly mammoth and other now extinct animals, provided the primary food resources for the Paleo-Indian hunters.

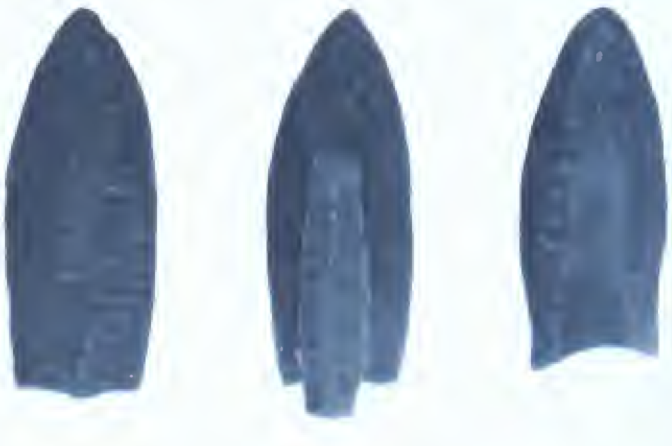
Cultural remains of the Paleo-Indians are almost identical everywhere they are found in North America. And yet they are distinct from the artifacts of later American Indians. Paleo-Indian stone tools occur thinly scattered at their camps and animal-kill sites, usually being found on high ground and away from the major rivers. Practically all that remain today of their culture are the very specialized chert hide-scrapers, knives and carefully fashioned fluted spearpoints.

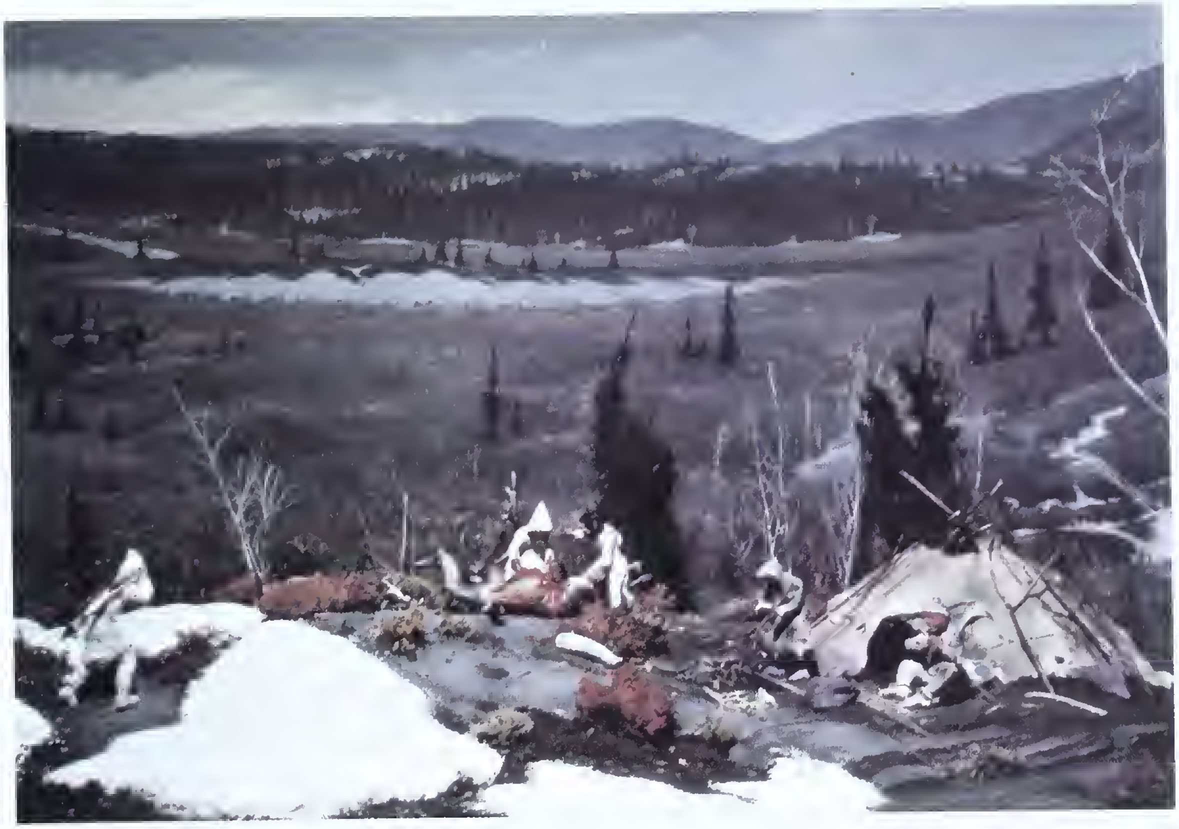
## ARCHAIC PEOPLE

Paleo-Indian culture existed here almost unchanged until about nine thousand years ago. At that time a new way of life (possibly borne by new people) began to emerge. The glaciers had receded far to the north and a climate, vegetation and animal forms like those that we know today had returned to Pennsylvania. These changes in the environment brought about a new technology for making a living, which in turn caused changes in other aspects of local Indian culture. This new culture is known as the Archaic, and it lasted until about 1000 B.C.

Because of the new and more abundant environmental resources, Archaic people began to live in smaller and more defined areas. They too were band-organized hunters and gatherers, with each territorial group consisting of perhaps twenty-five to fifty people. Territories were largely defined by drainage area, such as the Swatara Creek and all of its tributaries in Lebanon County. Residents of such an area would live out their entire lives there and most would die before they reached forty years of age.

*Steps in the manufacture of a Paleo-Indian fluted spearpoint. The flute, which served as an aid in attaching the point to a wooden spearshaft, is created by the removal of a long thin flake from the face of a rough form.*





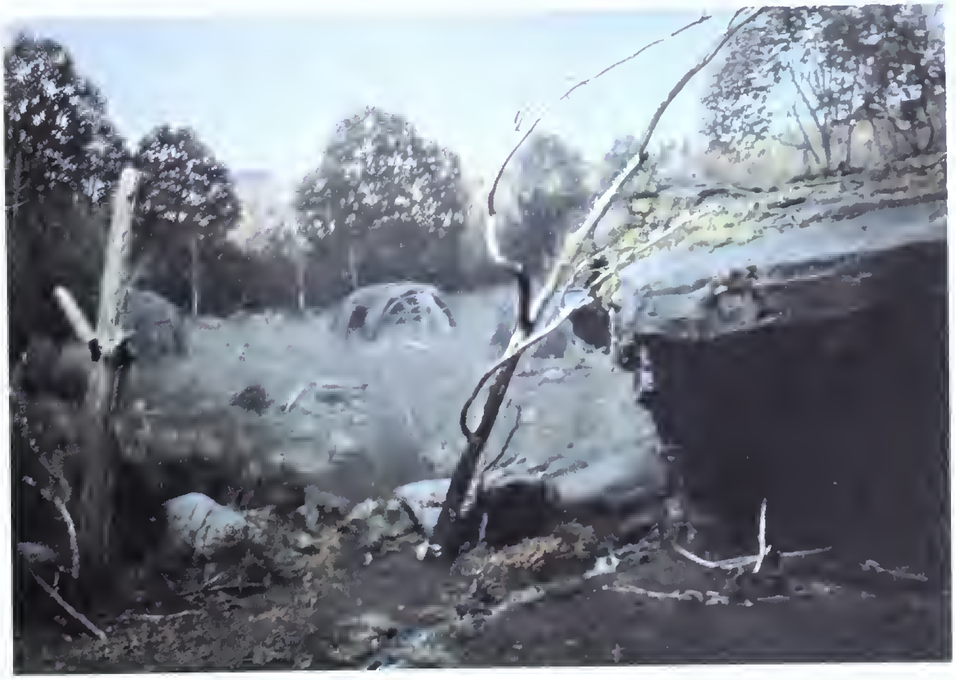
*A Paleo-Indian camp site in Central Pennsylvania as it might have appeared ten thousand years ago*

At times when the supply of food was sufficient, for example in the fall nut-gathering season, several Archaic bands from adjacent territories might get together to share in simple ceremonies and trade tools. Perhaps a marriage would take place.

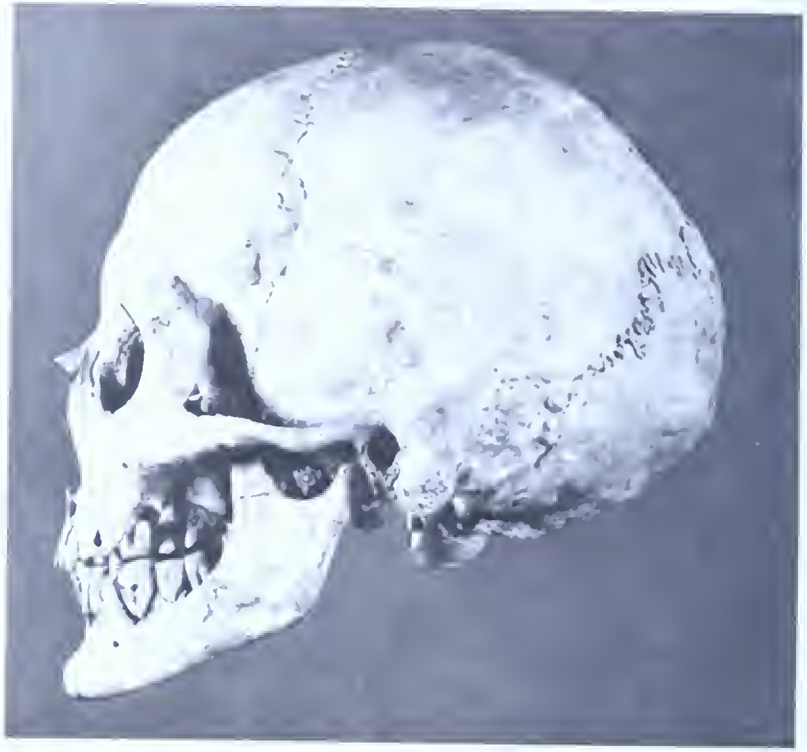
Very few sites have been excavated where remains (postmolds) of Archaic houses have been found. Those few that have been discovered suggest a circular, dome-shaped, bark-covered framework of poles. When traveling or in temporary hunting camps, Archaic folk generally made use of natural shelters such as rock overhangs.

The basic tool kit of Archaic groups all over the eastern United States is pretty much the same. It includes pecked and polished grooved-stone axes, pestles and mullers for crushing and grinding nuts and seeds, atlatl weights for spear-throwing sticks and chipped-stone drills, knives, scrapers and spearpoints. Chipped-stone spearpoints are the only tools which show much variation in shape during this Archaic pe-

*A Fall camp for a band of Archaic hunters and gatherers*



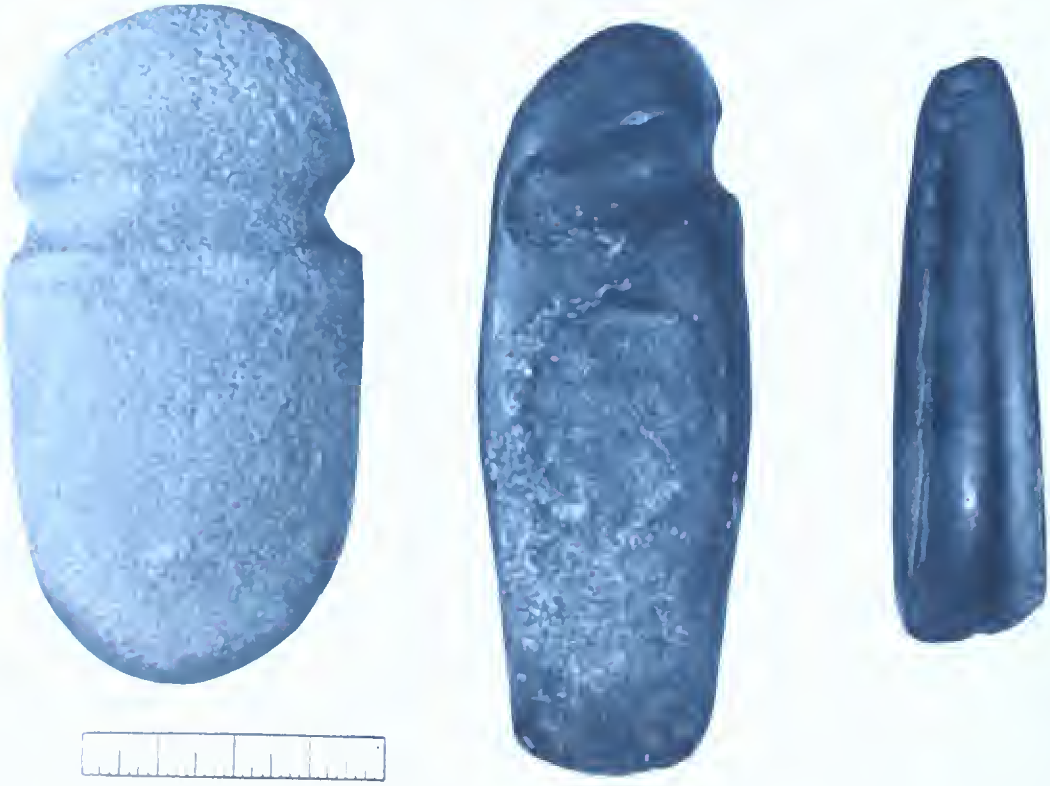
riod. But again those of any particular group and time period conform to a customary or accepted shape. These point types, as they are called, provide the archeologist with time markers in what was otherwise an unchanging and long-lasting technology.



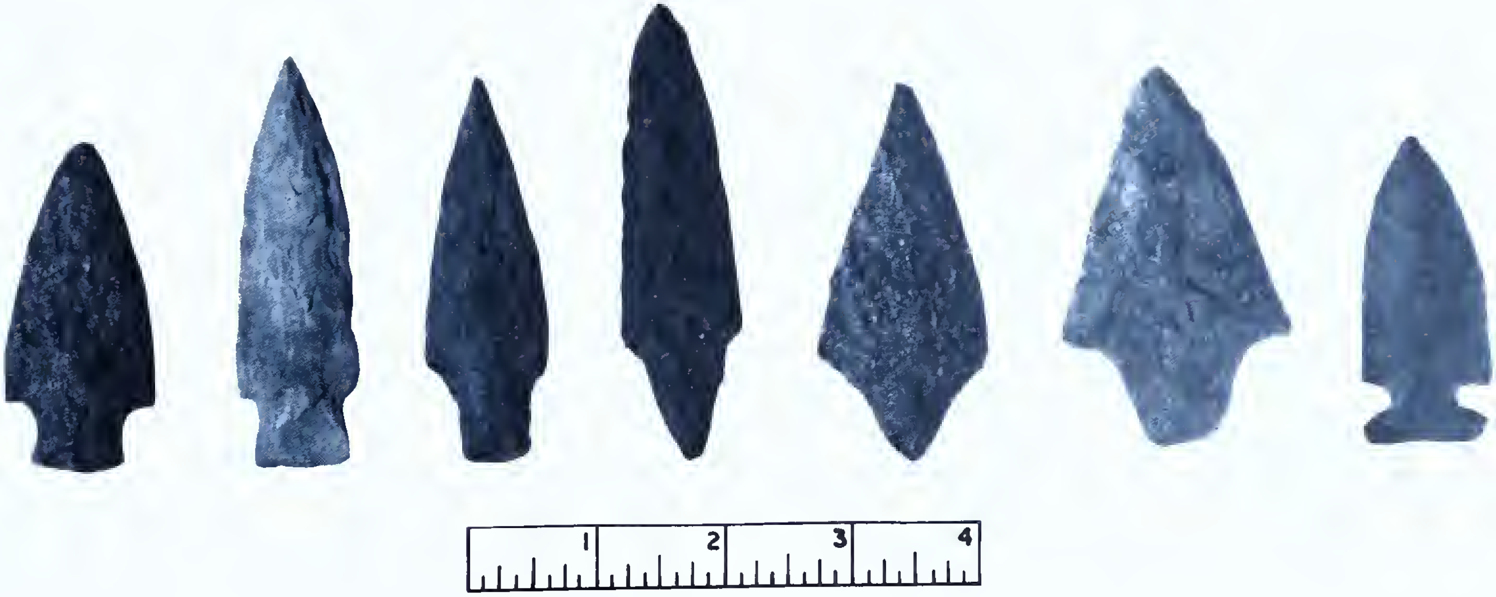
*The oldest human skull found in Pennsylvania, from the Archaic levels at the Sheep Rock Shelter*

## A PERIOD OF TRANSITION

Toward the end of the Archaic period, but overlapping it in time, some distinctive changes occurred in tool forms. Archeologists have referred to this time span and its characteristic tools as the Transitional period. Its greatest occurrence was in eastern Pennsylvania, but typical Transitional-period artifacts are occasionally found among the local Archaic developments of western Pennsylvania. Transitional people made very broad, well-flaked spearpoints which are quite different from those of the Archaic period.



*Full and three-quarter grooved axes, and a gouge from Archaic sites in eastern Pennsylvania*



*Typical shapes of Archaic period spearpoints, from left to right they cover a time span from about 5000 B.C. to 1000 B.C.*

Also at this time period the first permanent cooking vessels appear. These were carved from large blocks of soft Lancaster County soapstone or steatite. Cooking in earlier Archaic times was done primarily by roasting or baking. Although there is very little archeological evidence for it, stone boiling may also have been employed; this involves placing hot stones in a water-tight woven basket or bark container in order to bring a soup or stew to a boil.

In spite of their several cultural changes or innovations, Transitional people continued to live a basically Archaic way of life. The fact that their sites seem to be more frequently found along our major rivers suggests that they made greater use of riverine resources, involving more fishing and the collecting of fresh-water mussels.

*A Transitional period camp along the Susquehanna River. Soapstone kettles, like that in the foreground, were used for the first time during this period.*

*Three kinds of broad spearpoints from the Transitional period*

Archeological evidence suggests that settlements were somewhat larger and that they were occupied longer than in earlier times. At least some of the houses of this period had excavated floors so that the interior of the round house was lower than the surrounding ground surface, an arrangement which would have provided additional protection from cold winter winds.

Agriculture, or more precisely primitive horticulture, began at this time, at least among certain groups of the Ohio Valley. Sunflowers were probably the most important of the newly domesticated crops. Even so, hunting and gathering were still the primary methods of getting food.

During this last millenium of the pre-Christian era, in certain areas along the Ohio River and its tributaries from Pittsburgh to about its junction with the Mississippi, a much more highly developed culture known as Adena was beginning to emerge. Horticultural supplements to hunting

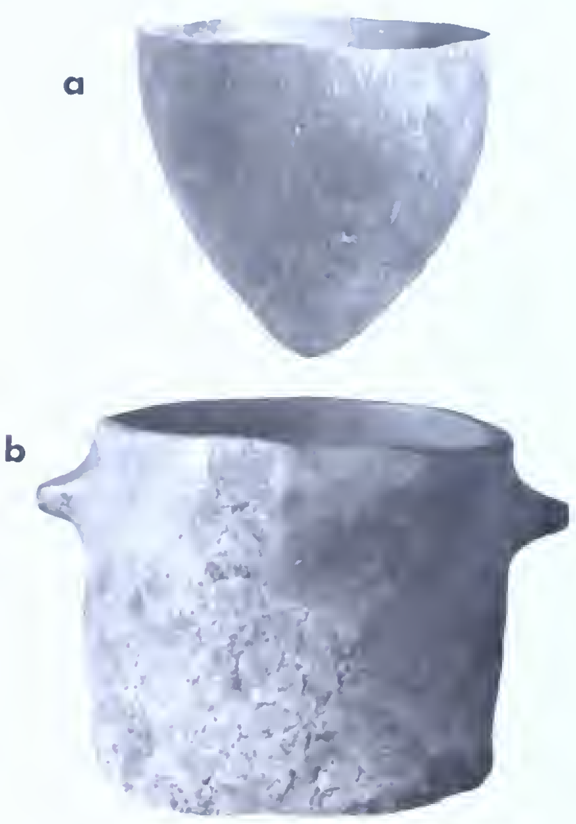
## WOODLAND FARMERS AND POTTERS

Each new cultural or time period is marked by changes in technology. The next major changes occurred about 1000 B.C., when local Indian groups began making pottery cooking vessels. This new cultural stage is called the Early Woodland period, and it lasted until 300 B.C.

The first ceramic pots were rather crudely made. Their shapes—straight sides with lug handles and flat bottoms—mimic the form of the earlier steatite vessels. Slightly later, cone-shaped pots came onto the scene. These pots were formed by building up coils of clay that were welded together with a cord-wrapped paddle. Cordage impressions from the paddling are preserved in the fired clay of these pots and are characteristically seen on both the interior and exterior surfaces of the vessels.

Stone and ceramic pipes found on Early Woodland sites provide evidence for the beginning of tobacco smoking—a habit which was to increase in popularity among later Indians and become part of the legacy of our contact with the native North Americans.

Projectile points once again take on a new look. Winged bannerstones were no longer being made, but their function may have been taken over by the drilled slate gorgets common to this period.



*(a) Conical pots were made later on in Early Woodland times and throughout the Middle Woodland period*

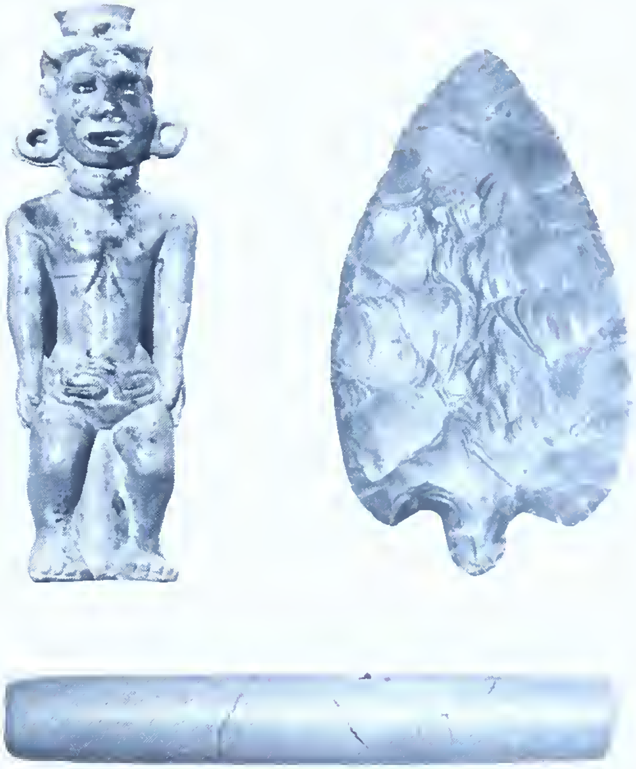
*(b) An Early Woodland ceramic vessel, its shape mimics the form of the earlier soapstone kettles*

and gathering undoubtedly played a role in bringing about these changes.

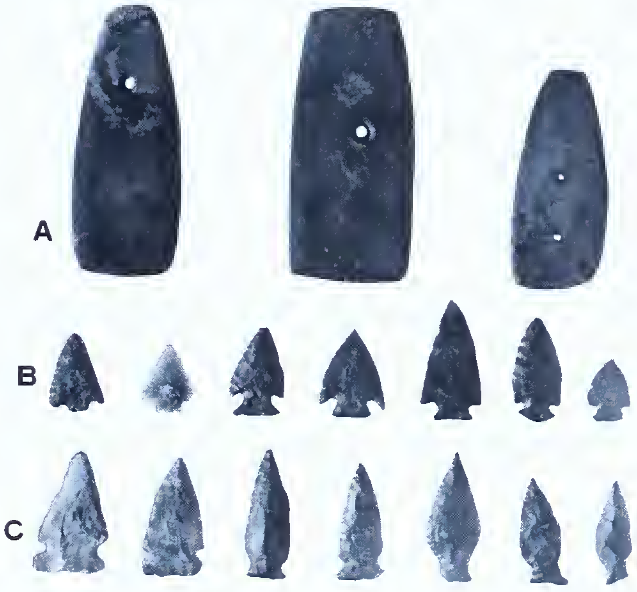
Adena peoples constructed enormous mounds of earth over burned houses in which one or more important individuals were buried. This recognition of individual status may signal the beginnings of chiefdom-level societies.

Adena craftsmen made a variety of elaborate tools and ornaments from high-grade flints, other stones and copper, and placed them frequently with the important dead in the burial mounds. The specialization of crafts and increased trade for raw materials from which to fashion these fancy goods are also indicative of chiefdom societies.

If we can judge by the occasional finds of elaborate tubular pipes, spearpoints and copper tools, it would appear that some influence from Adena culture reached the more backward peoples farther to the east in Pennsylvania. This would have come about as a result either of trade or of travel by Adena folk to eastern Pennsylvania and to the Atlantic coast.



*Adena objects: tubular pipe, human form smoking pipe, large ceremonial blade*



*Artifacts of the Early and Middle Woodland Periods:*
*(a) Slate gorgets were used during both periods*
*(b) Corner-notched points are typical of the Middle Woodland*
*(c) Early Woodland side-notched and fish-tail points*

## MIDDLE WOODLAND AND THE GREAT MOUND BUILDERS

Ancient cultures do not always terminate at the same time, to be succeeded by a new culture everywhere that they occur. Usually there are periods of overlap, when a new way of life may arise in some areas and co-exist for a time with an older way of life.

Archeologists recognize a Middle Woodland culture beginning about 500 B.C. and lasting, in many cases with only minor changes, until about 1000 A.D. This new culture, throughout most of Pennsylvania and the northeastern states, was characterized primarily by new shapes in pottery vessels and projectile points. Horticulture was becoming increasingly important, and in some areas it made possible still larger settlements of people.

At this same time a new and much more highly developed culture of mound builders was beginning to arise throughout the Ohio Valley. These new people, known as the Hopewell and sometimes referred to as the great mound builders, did rather quickly replace the Adena culture.

Hopewell peoples traded for raw materials from as far away as the obsidian outcrops in the Rocky Mountains and for large conch shells from the Gulf of Mexico. Largely as a result of its widespread trade networks, various aspects of Hopewell culture were soon picked up by other peoples, most notably in the southeastern United States. Some of its culture traits spread into Pennsylvania, particularly in the Allegheny Valley, where small Hopewell-like villages, elaborately carved stone pipes, copper tools, ornaments and burial mounds occurred. But again the backward Middle Woodland peoples of eastern Pennsylvania received or accepted very little influence from this rather highly developed chiefdom-level society.

Archeologists have for a long time been concerned, even puzzled, about the causes and significance of these developments. There is now reasonably good evidence that Hopewell peoples were growing corn and beans. Such agricultural crops would certainly have been instrumental in their population growths, settlement stability and their overall cultural development. For the layman the most puzzling and outstanding features of Hopewell culture are its numerous and large burial mounds, and even more its enormous geometric earthworks. With regard to these earthworks very little is known; generally they are referred to as ceremonial centers. In any event one cannot help but be awed by their size, and the time and amount of human labor necessary to construct them. The largest and most impressive of these, located at Newark, Ohio, consists of earthen embankments ten to fourteen feet in height in the shapes of two circles, a square, and an octagon, all of which were joined by parallel earthen walls. The area enclosed by these staggeringly large geometric outlines exceeds 120 acres. And this is only one of dozens of such impressive Hopewellian sites in the Ohio Valley. Amazingly, very few artifacts are found in or directly associated with the earthworks. The accompanying burial mounds do produce objects which clearly identify them as Hopewell, but they give no clear indication as to the purpose of these gigantic complexes, other than that they served as elaborate cemeteries.

Many non-anthropologically based interpretations have been offered to explain these and other similarly large structures throughout the world. A recent well-known example is Von Daniken's suggestion that features such as the large geometric outlines of the Plain of Nazca in Peru are the work of ancient astronauts. Why then allow the Hopewellian earthworks or any other equally impressive monuments which can only be fully appreciated from an airplane to be the work of earth man? As our own explanation we might point to the fact that many such works can indeed only be seen from the air. Traditionally it is God or the gods who live above the earth. Another good parallel might be the great gothic cathedrals of Europe, built in the form of a cross, really only visible as such from God's vantage point. Surely no one would accuse the ancient astronauts of building Notre Dame.

Our suggestion is that such enormous but otherwise non-functional monuments were built by agrarian chiefdoms and state societies to appease or please the gods with whom the rulers on earth had become so inexorably tied.

*An Adena mound in Allegheny County, Pennsylvania*

# LATE WOODLAND AND MISSISSIPPIAN

Hopewell culture in the Ohio Valley died rather suddenly around 500 A.D. Several hundred years thereafter, and farther down the Ohio River from the decayed Hopewell centers, and in the Mississippi Valley, a new and even more highly evolved chiefdom society was emerging. Archeologists call this the Mississippian culture and at its height it included numerous large and independent chiefdoms.

Mississippian peoples were also mound builders, but now the largest and most impressive mounds served as platforms for religious temple structures. The largest of these, more than one hundred feet high and covering sixteen acres, is located at Cahokia, Illinois. The great Cahokia mound is surrounded by at least eighty-five smaller temple or burial mounds. Interspersed among these and surrounding the whole complex are the archeological remains of a great city of domestic and other structures.

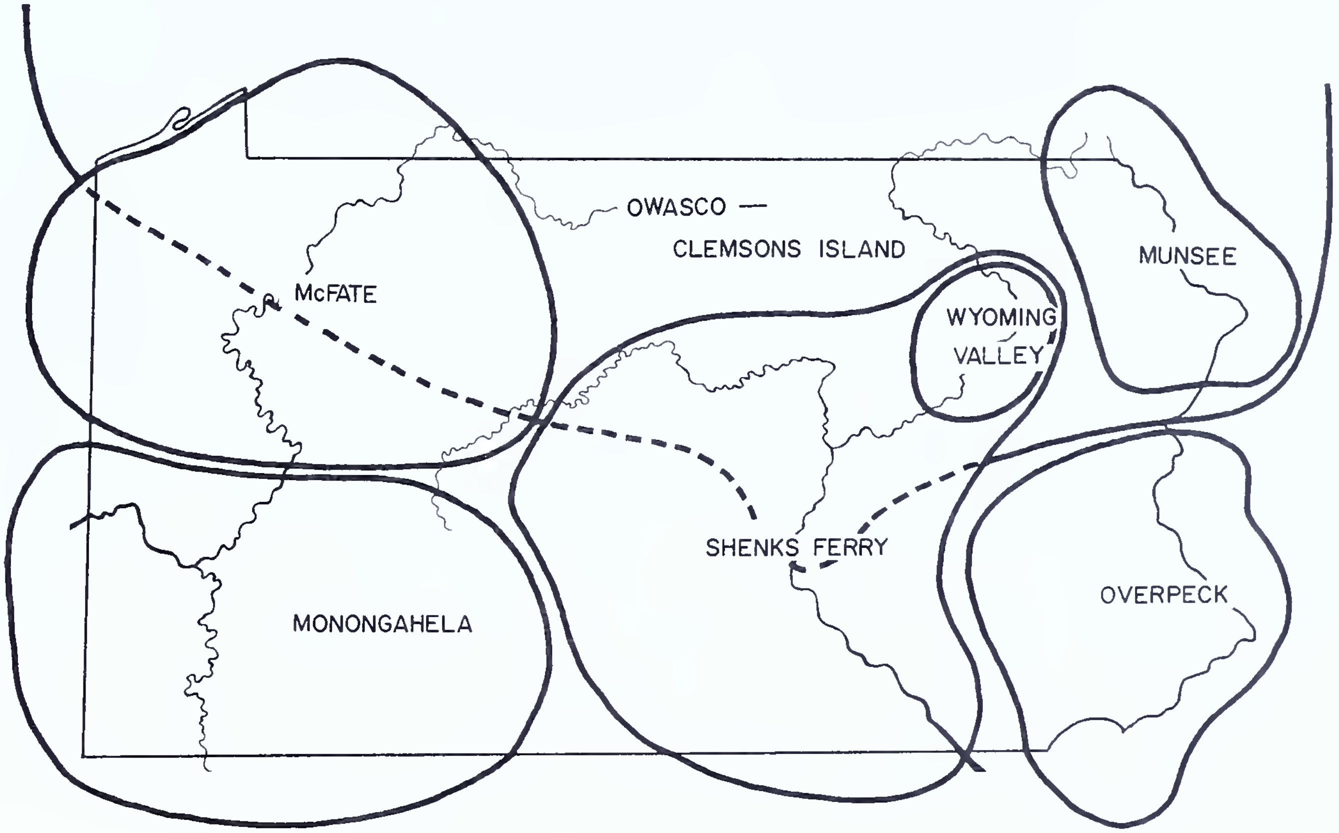
Eventually, some aspects of Mississippian culture also spread up the Ohio Valley, and ultimately it too had some small effect on Pennsylvania Indians. The non-Mississippian cultures in the eastern United States after about 1000 A.D. are referred to as Late Woodland.

# PHASES OF LATE WOODLAND CULTURES

Prior to Late Woodland times the cultural differences among groups scattered throughout Pennsylvania at any one time period were very minimal. However, Late Woodland tribes began to develop more distinctive local characteristics.

All Pennsylvania Indian tribes of this period had fairly well developed agriculture, but hunting was still of great importance as a source of food. Villages became larger and were occupied for years at a time. With this growth of population and competition for resources, there was also an increase in warfare. Eventually many of the towns were surrounded by defensive works, including ditches, earth embankments and vertical stockade posts. The bow and arrow came into use for the first time, and the small, chipped-stone, triangular arrow tip became universal. None of Pennsylvania's Late Woodland peoples reached

*Distribution of the phases of Late Woodland cultures in Pennsylvania*

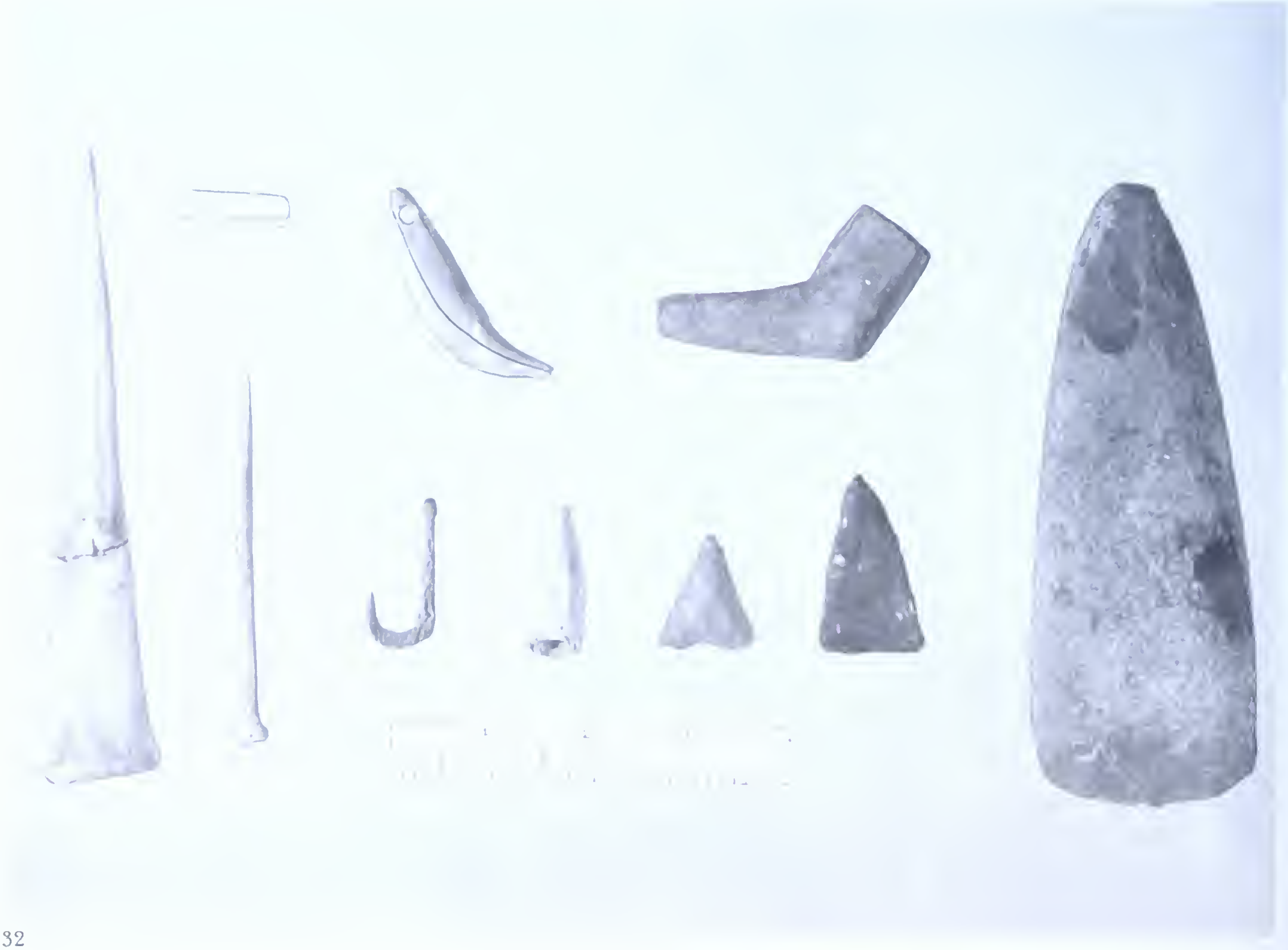


the true chiefdom-level society of its Mississippian neighbors. Some did, however, become rather large, highly organized tribes.

Individual characteristics or different phases of Late Woodland cultures are reflected by their pottery, smoking pipes, bone tools, house construction, burial customs and to some extent by ornamental items. To be certain, these various tribes also had other differences which do not show archeologically, as for example those of language or dialect, kinship structure and religious belief.

Pottery forms, decorations and temper are the major characteristics by which archeologists identify and label the tribal or phase differences of these Late Woodland groups. Pennsylvania Indians used two basic techniques to decorate pottery. Both of these were applied before the pots were fired and while the clay was still wet. One of these involved a stick with a strand of twisted cord tightly wrapped around it. The cord-wrapped stick was pressed into the wet clay to create various patterns. The other involved incising or cutting lines and dashes into the clay with a sharp instrument to produce geometric designs.

*Typical artifacts of the Late Woodland period: bone awls, beads, fishhook, antler arrowpoint, triangular arrow points, clay pipe, and a celt or axe head.*



*View from a garbage heap, of a small Clemsons Island village and burial mound*

## CLEMSONS ISLAND

Early in the Late Woodland period (1000-1300 A.D.) there were numerous small groups of people living, primarily, on the islands and floodplains of the middle Susquehanna and Juniata valleys. Archeologists refer to them collectively as the Clemsons Island phase or culture. The name comes from an island in the Susquehanna River near Halifax where one of their sites has been found.

These were the only people known to have constructed burial mounds in eastern Pennsylvania. Only one of the Clemsons Island mounds is still visible. It is located near Academia in Juniata County. Although there must have been many others along the Juniata and Susquehanna rivers, all that exist today are old descriptions of four of their small mounds.

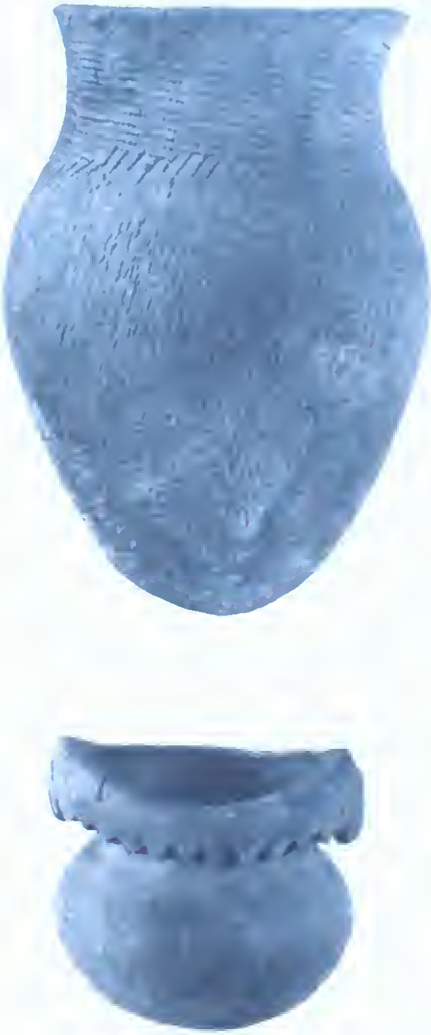
Recent excavations of Clemsons Island villages suggest that these folk built small parallel-sided houses with rounded ends. In small clearings surrounding their dwellings they probably grew corn, beans and squash. Fish were caught in the river with nets or bone fishhooks, and various game were taken with the bow and arrow in the nearby forests.

Ceramics made by Clemsons Island potters were characteristically decorated by pushing a twig part way through the wet clay in the neck or rim of the vessel. This resulted in patterns of bumps or punctates and corresponding holes on the inside and outside of the pots.

## OWASCO

A culture very much like the Clemsons Island phase existed at the same time in northern Pennsylvania along the upper Susquehanna and upper Delaware River valleys. Archeologists call this the Owasco phase of the Late Woodland period. The major difference between Clemsons Island and early Owasco is that the latter did not use punctates in decorating its pots. Except for this, some of the pottery from the two cultures was almost identical.

Actually the center of the Owasco culture area is in New York State. Archeological studies have shown the Owasco culture, particularly as seen through gradual changes in its pottery, evolved into Iroquois culture.



*Owasco pot with cord-wrapped paddle impressions (top). Wyoming Valley pot with incised decorations made by cutting the wet clay with a sharp tool (bottom)*

## PARA-IROQUOIANS

Pottery and other aspects of fourteenth- through sixteenth-century cultures in the upper Susquehanna and upper Delaware valleys were passing through the same general stages as was the evolving Iroquois culture in New York. And yet, in both these areas of Pennsylvania there were locally distinctive developments. The people living in these two river valleys were not truly Iroquoian. In fact, the latest prehistoric people of the upper Delaware Valley spoke Algonkian—an entirely different language.

In spite of certain recognizable differences, the overall appearance of archeological remains in these two areas shows so much influence from Iroquois culture that we might call them para- (or in a sense) Iroquoian.

Two major Para-Iroquoian cultures evolved in the upper Susquehanna Valley. One of these has been called the Wyoming Valley complex, the other is known as Proto-Susquehannock.

Pottery developments of the upper Delaware Valley which so closely paralleled that of the Iroquois have been designated "tribal pottery." Eventually, perhaps by 1550 A.D., these emerged into a type known as Munsee Incised, which is in no sense Iroquoian.

## THE DELAWARE INDIANS

The makers of Munsee Incised pottery and those responsible for a type known as Overpeck Incised, from the area south of the Delaware Water Gap, became the historically known Lenni Lenape or Delaware Indians. Historical accounts call that group of Delaware living up-stream from the Water Gap the Munsee. Those living in the lower Delaware Valley were often called the Unami Delaware. Except for the difference between Munsee and Overpeck Incised pottery, there are very few archeological remains which serve to distinguish these two separate groups of the Delaware tribe. Neither group built any stockades around its villages. In fact, judging from archeological and historical records, both groups were split into numerous small hamlets, located at the mouths of most of the tributaries of the Delaware River. During periods of food shortages, especially in the winter, they may have broken into even smaller family groups to forage back from the river as far as the headwaters of its tributaries.

In addition to the ceramic difference of the Munsee and Overpeck (Unami) Delaware, there must also have been social and perhaps political differences. They maintained, in name at least, separate identities right through the colonial period, and into their reservation period in Canada and Oklahoma, where some few of them still reside.

Arrival of Europeans in the lower Delaware Valley, beginning about 1620 with the Dutch, then Swedes and finally English, had an enormous impact upon the Delaware Indians. Change and deterioration of their way of life as a result of contact and conflict with the whites was so rapid that by the beginning of the eighteenth century, there was very little left that could be called native Delaware culture.

By 1710, and perhaps earlier, many Delaware began to leave their home lands in the hope of finding a less turbulent existence among other refugee Indian tribes along the Susquehanna River. Eventually they occupied major towns at Harrisburg (Paxtang), Sunbury (Shamokin), and Wilkes-Barre (Wyoming). However, the taking of their lands and the threat to their way of life by the whites was ceaseless. After 1750 most of the Delaware—a few remained on the upper Susquehanna until 1772—had removed to the upper Ohio Valley in western Pennsylvania.

Most of what is known about the Delaware Indians comes from historical records. Archeology of the historic-period Delaware, particularly those of the lower Delaware Valley, is very poorly understood. In part this is due to the rapid development of this area during our colonial period and the continuing urban and industrial sprawl which has destroyed most of the archeological remains of the seventeenth- and early-eighteenth-century Delaware Indians.

## SHENKS FERRY

The prehistoric-period Late Woodland phase of south central Pennsylvania is marked by a pottery and culture type called Shenks Ferry. The name, as in most cases with archeology, derives from the place where the culture was first excavated or recognized by archeologists. In this instance the place is near an old Susquehanna River ferry crossing in Lancaster County.

Shenks Ferry culture first appears in this area about 1300 A.D. Sites of this early period are small and widely scattered throughout the lower Susquehanna Valley and its tributaries. They are typified by two kinds of pottery—Shenks Ferry Cordmarked and Incised. Both of these bear resemblances to earlier ceramics of the Maryland and Virginia Piedmont areas, and this has led some archeologists to believe that the Shenks Ferry may have migrated into this area from the south. Shenks Ferry artifacts of the fourteenth and fifteenth centuries are found as far west as the headwaters of the Juniata River and north to about Williamsport.

Early in the sixteenth century A.D. the Shenks Ferry began to live in more densely populated villages, and frequently erected stockades around their towns. Practically all of the Shenks Ferry settlements of this late period are located in Lancaster County.

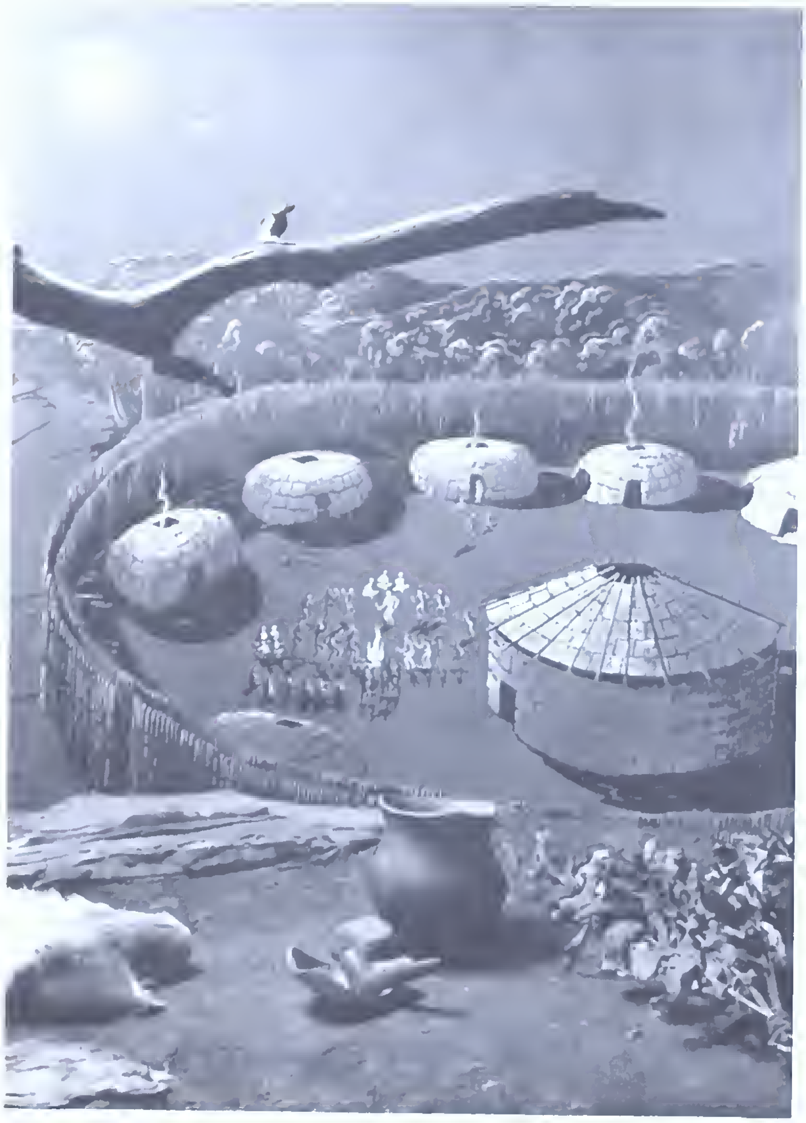
This rather sudden change from scattered hamlets to large fortified towns reflects increasing turmoil and intertribal warfare, probably with their Para-Iroquoian neighbors to the north. At this same time there were also noticeable changes in their pottery. Curiously, certain design elements on their pots began to look more like those of their enemies, the Para-Iroquoian peoples. By the end of the sixteenth century the Shenks Ferry were overrun by their northern neighbors and they no longer existed as a distinct cultural group.

## MONONGAHELA FOLK

To the west of the Juniata drainage and throughout all of the southwestern quarter of the State lived the peoples of the Monongahela phase of Late Woodland culture.

Once again, the major distinguishing characteristic is their pottery. Generally the pots have no incised decorations, but the surfaces are covered with cord markings made by the cord-wrapped paddle used to malleate and shape the wet clay. The majority of Monongahela pottery has crushed shell mixed with the clay to serve as a tempering agent, but grit or crushed stone was also used, and at a few sites it is more common than the use of shell temper.

This ceramic tradition seems to have developed out of local Middle Woodland pottery, but there are also definite



*A night view of a ceremony in a Shenks Ferry village*

ties with pottery types in western Maryland, Virginia and West Virginia. In addition, a certain amount of Mississippian influence, particularly the use of shell temper and various details of form, is an apparent result of diffusion between these two cultures.

Unlike the Shenks Ferry and Para-Iroquoian tribes of the east, who built parallel-sided houses, the Monongahela peoples constructed circular, dome-shaped houses. Frequently these had a small appendage attached to them which served as a storage area and which gave the house a kind of igloo appearance.

Many of the Monongahela towns were stockaded, particularly in the later period of their existence. In such cases the houses were usually arranged in a circular fashion just inside the stockade wall, thus leaving an open plaza at the center of the village.

Few Monongahela sites have produced any European trade goods dating later than about 1600, thus indicating that Monongahela culture was terminated in western Pennsylvania at about this time. Where these people went or what happened to them is a mystery. The area continued to be used as a hunting territory for other peoples, but it was not reoccupied by Indians until the eighteenth century.

## NORTHWESTERN PENNSYLVANIA

The predominant cultural phase during Late Woodland times in northwestern Pennsylvania is known as McFate, designated from the site in Crawford County where first found.

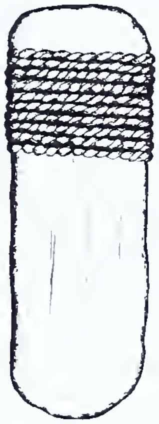
On the upper Allegheny near the New York State border there were other minor incursions of Iroquoian or Iro-

*Looking from the door of a hut at the interior of a Monongahela village* quoian-like cultures. These, however, are less apparent, archeologically speaking, than the McFate culture.

The McFate peoples also lived in stockaded towns, some of them being rather large. Their pottery is a curious mixture of Monongahela, Iroquoian and local developments.

Here, too, the people seem to have vanished before European contact times, as no trade goods are found in their sites.

During the historic period various Iroquoian tribes occupied or claimed portions of northwestern Pennsylvania, as is made evident by the discovery of European trade goods with mid-seventeenth-century Erie Indian remains in the present city of Erie. Unfortunately, very little is known of the historically mentioned Iroquois-speaking Erie people of this region, who by 1654 had been completely destroyed by the Seneca. Since that time the Seneca Indians have claimed the upper Allegheny in Pennsylvania, although they never established any major towns there.



*Drawing of a cord-wrapped potter's paddle found at the McFate site*

In 1791 the Pennsylvania Assembly granted three tracts of land in Warren County, Pennsylvania, to a Seneca Indian by the name of Cornplanter and his heirs. The Cornplanter tract was used, off and on, by the Seneca until 1967, when the area was flooded by the construction of Kinzua Dam.

The Cornplanter tract was not a true Indian reservation and Pennsylvania today has no Indian reservations or even distinctive communities of Indians. To be certain, there are numerous Indians living in the State, but they represent ethnic or tribal heritages from all over the country.

# INDIAN LANDS OF THE COLONIAL PERIOD

Pennsylvania's customary official policy during the colonial period was to purchase tracts of Indian land which in turn could be sold to new colonial settlers. Tracts not formally purchased by Pennsylvania's Provincial government were considered Indian territory. However, the purchase and sometimes outright theft of Indian land was ceaseless. By the time Pennsylvania's western border was finally established in the eighteenth century, there were no Indian lands other than the Cornplanter tract, which had been given back to a Seneca Indian and his heirs by the Commonwealth. In essence, Pennsylvania has never really had an Indian reservation, at least in the sense of reserving Indian lands for continual use by Indians. In a number of cases lands already purchased by the Provincial government were set aside for use of Indians so long as they should continue to occupy the land and *behave themselves.*

One such place was the five hundred-acre Okehocking Tract in Chester County, a place surveyed by the Proprietary for a small band of Delaware Indians. The land was theirs to use, tax free, so long as they continued to occupy it. The tract was completely surrounded by lands settled and farmed by European immigrants. By 1730 these Indians were gone, most of them following the rest of the Delaware migration to the west, thus marking the final stage of the Delaware exodus from their native homelands in eastern Pennsylvania.

Another such Indian tract was Conestoga Town. This place was set aside for the Conestoga Indians within the confines of the Penn proprietary lands known as Conestoga Manor, in Lancaster County. Although the land was never formally deeded to these Indians, they were permitted to live there by the government.

This place marks the last settlement of the Susquehannock Indians, perhaps the best known of all Pennsylvania Indians. The Delaware Indians are more frequently mentioned in early historical records of Pennsylvania, but as noted previously we have not only driven them from their native lands, but also destroyed most of the ancient sites at which archeologists might learn more about them.

Many more of the Susquehannocks' sites have survived into recent times, and now after more than forty years of archeological and historical study we have a fairly good understanding of their culture history.

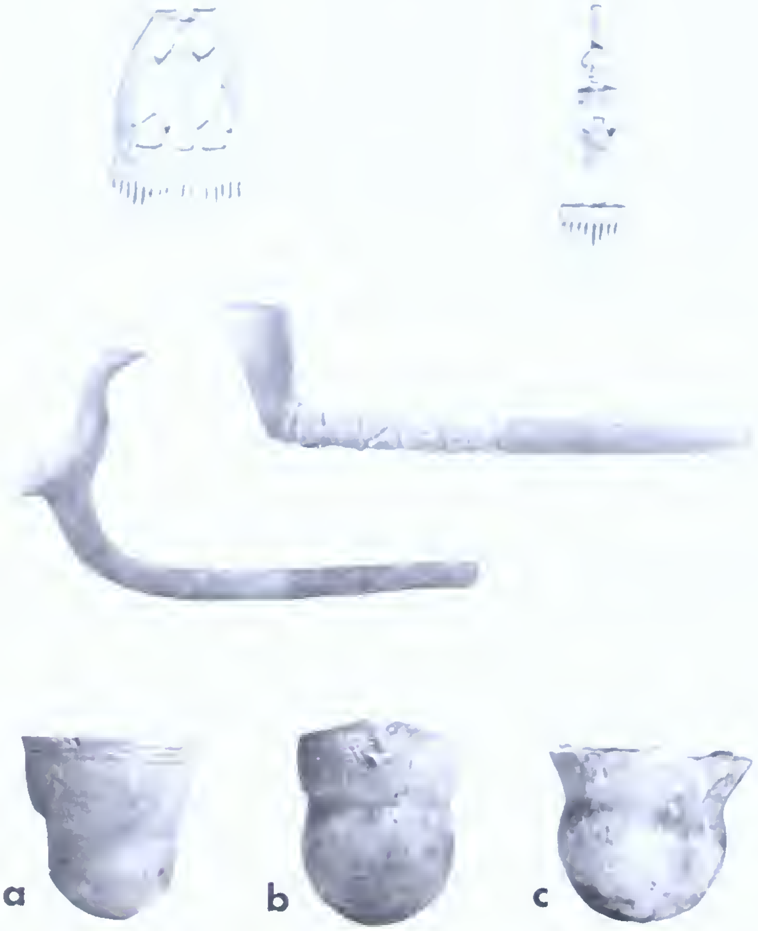
# SUSQUEHANNOCK OR CONESTOGA

The story of the Susquehannock involves most of the Late Woodland tribes already discussed. It begins in New York State during the fifteenth century A.D. At that time a group of Iroquoian-speaking peoples split from the mainstream of Iroquois development and moved into southern New York and northern Pennsylvania.

This splinter group, already referred to as Proto-Susquehannock, began to grow in size, but as a result of pressures from other Iroquoian peoples to the north, it continued to move in a generally southward direction.

By the middle of the sixteenth century the people of the Wyoming Valley disappeared from the archeological record—apparently they were conquered and dispersed by the southward-migrating Susquehannocks. The same fate seems to have been thrust upon the native cultures of the West Branch of the Susquehanna.

*Native-made Susquehannock pots, pipes and antler combs:*
*(a) Shultz Incised pot (1575 - 1600).*
*(b) Washington Boro Incised pot (1600 - 1640).*
*(c) Strickler cord-marked pot (1645 - 1675)*



About 1575 a large group of Susquehannocks built a stockaded town along the Susquehanna River below Washington Boro in Lancaster County. Archeologists call this town the Schultz site.

For at least fifty years prior to this date, as we have already seen, the indigenous Shenks Ferry peoples were gathering together in palisaded towns at several localities in Lancaster County. Their need for protected towns was a result of aggression by the Susquehannock who were raiding into and gradually taking over the Shenks Ferry territory.

By 1575 or shortly thereafter, this Susquehannock conquest of the Susquehanna Valley was complete. There were no more Shenks Ferry towns and those who had not been killed or driven off were assimilated or adopted by the victorious Susquehannock.

For the next seventy-five years the Susquehannock population continued to grow and prosper. Due to their increasing numbers and the resulting depletion of local wood supplies and exhaustion of agricultural lands, the Susquehannock found it necessary to move and enlarge their villages every fifteen to twenty-five years.

Their second village in this new homeland was located on a flat hilltop in present-day Washington Boro. This town, built about 1600 and subsequently enlarged, had a stockade encompassing an area of more than five acres and containing as many as fifty houses. It was in the year 1608, while they were still living at the Washington Boro site, that a group of Susquehannock met the English explorer, Captain John Smith, at the head of Chesapeake Bay. His account of the dress, manner of speech and their "enormous" size is the first historical record of Indians in Pennsylvania.

Although now quite distantly removed, both in time and distance, from their Iroquoian ancestral ties, and frequently opposing one another in warfare, the Susquehannock still maintained a degree of cultural affinity with the New York Iroquois. Many similarities existed in pottery, tools, ornaments, burial customs and house construction. From this we can assume that the Susquehannock tribe also shared many of the social and ideological-cultural characteristics of the Iroquois. For example, since it is known that the Iroquois had matrilineal clans, i.e., membership in a clan group being traced through female lines of descent, we can suggest that the Susquehannock had them likewise.

Both tribes built what are known as long houses. These were made of two parallel rows of posts, with about twenty feet between the rows. The tops of the posts were bent and tied to those of the opposite row, thus forming a Quonset hut-shaped framework. This pole framework would then be covered with slabs of bark. Inside, beds were built along the walls, and beneath them, at least in Susquehannock houses, storage pits were dug. Several families, members of the same female lineage and their husbands, would occupy one of these long houses. Partitions were built to more or less separate each nuclear family.

Susquehannock long houses as determined by postmold patterns measured sixty to eighty feet in length, and on the average each could house five families. As a result of the extensive archeology which has been conducted on Susquehannock sites, we know or can fairly accurately assess the number of houses per acre of stockaded town. The figure works out to about ten houses per acre. Normal or median family size for primitive peoples is five persons. Given this information we can estimate the population of the five-acre Washington Boro Susquehannock town to have been approximately 1,250 people.

The areas outside the houses, but inside the palisade walls of these Susquehannock sites, are characteristically covered with storage pits and postmolds, which do not seem to conform to any pattern. These represent various specialized structures and pits used for short periods. Obviously all of them could not have contained posts or have been open pits at the same time; otherwise, walking through the village would have been almost impossible.

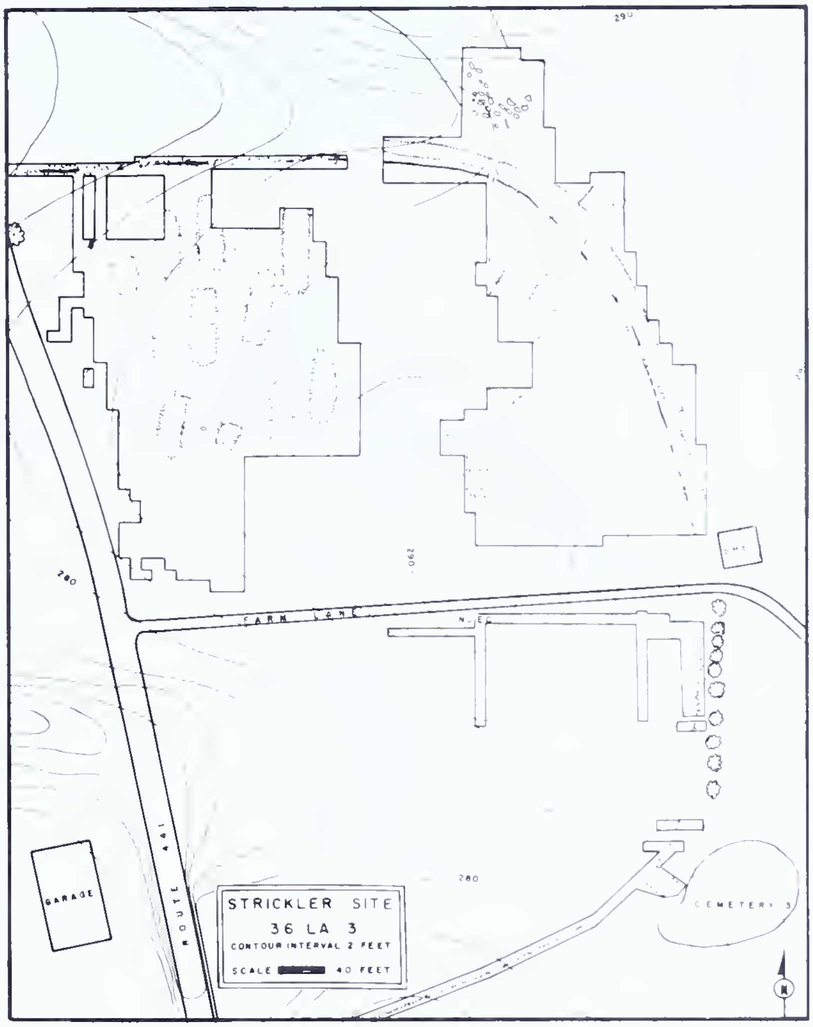
The next major village built by the Susquehannock was located about a mile south of Washington Boro. This town, now known as the Strickler site, was the largest ever built by the Susquehannock. Its earliest palisade, built some time around 1645, encompassed over ten acres of village, including at least one hundred long houses representing a population of approximately twenty-five hundred people.

In the Maryland archives for the year 1661, there is an indication that a Captain John Odber, with a militia company of fifty men, was to be sent to the town of "Susquehannough" to instruct the Indians as to the manner of constructing European-style flankers at the corners of their fort to aid in their defenses against the Seneca Indians.

The records suggest that Captain Odber for some reason did not carry out his orders. However, French Jesuit records for the year 1663 state that the Susquehannock fort was "defended on one side by the stream on whose banks it was situated, and on the opposite, by a double curtain of large trees, flanked by two bastions erected in the European manner."

Excavations at this site in 1968 and 1969 revealed two square bastion structures at the corners of the stockade opposite the river.

The question still remains as to whether or not Captain Odber was responsible for the defensive works. It is certain, however, that they existed and were effectively used by the Susquehannock in defending their fort against Iroquois war parties.

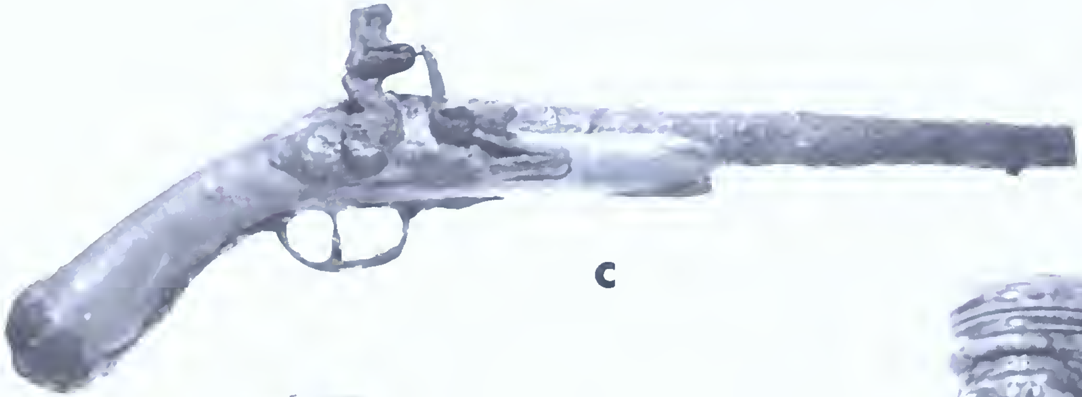


*Archeological map of the Strickler site, showing locations of the longhouses within the stockade, and the two corner bastions on the east side of the village.*

Archeological and historical research show that about 1665 the Susquehannock began to erect at least one and perhaps two new but smaller forts directly across the Susquehanna River in York County. Historical confirmation

a

b



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of this is provided on a map of the area published by Augustine Herrman in 1670, which pictures a Susquehannock town located on the west side of the river at the 40th parallel.

Seventeenth-century conflicts between the Susquehannock and their major Indian enemies, the Iroquois, stemmed from their violent competition for control of the fur trade with the Europeans. Depending upon the changing political climate, Susquehannock relationships with the English, particularly those settled in Lord Baltimore's Maryland colony, also vacillated between friendly alliances and open hostility.

All Indians of the east coast became very actively involved in the trade with Europeans for guns, powder and shot, kettles, iron knives and axes, glass beads and spiritous liquors. Furs, particularly beaver pelts, were the Indians' primary medium of exchange in the trade, and these were in great demand by colonial merchants for shipment to European and Asian markets.

By the last quarter of the seventeenth century, those Indian tribes which had survived the bloody warfare brought on by the fur trade had become totally dependent upon European manufactures. Native products such as pottery, stone-tipped arrows, smoking pipes, stone axes and knives were rarely made, even forgotten, because of their replacement by more efficient European equivalents.

All of this, coupled with the effects of new European diseases, large quantities of alcohol and the increasing land grabbing by Europeans, brought about massive changes and deterioration of Indian populations and their culture.

The last Susquehannock-Iroquois wars were fought in 1673-74. In their weakened condition the Susquehannock could not withstand these attacks. Those who survived were either taken as captives or driven from their fort on the west bank of the river. Archeological excavations here in 1970 clearly demonstrated that this town was also surrounded by a palisade wall. Artifacts recovered from this York County site show the Susquehannocks' increasing dependence on European trade goods and the resulting deterioration of native-made products.

*European trade items from seventeenth- and eighteenth-century Indian sites:*
*(a) brass kettle*
*(b) iron axe*
*(c) restored flintlock pistol from Conoy Town*
*(d) glass bottle dated 1716*
*(e) Bellarmine jug*

The Iroquois, and most specifically the Seneca, now claimed the Susquehannock territory. A few Susquehannock survivors sought refuge in the Maryland colony, where they were most uncordially received. By 1676 they were holed up in an abandoned Piscataway Indian fort on the Potomac River. Here they withstood an off-and-on six-week siege by Maryland and Virginia militia, who accused the Indians of local raids. Finally the besieged Indians slipped away in the night.

From there they wandered throughout eastern Virginia for several months. Finally, by the fall of 1676, according to Maryland records, the Susquehannock had returned to a place near their old town in York County.

From this time onward the Susquehannock and Seneca were on amicable terms. Scanty records for this period indicate that small groups from both tribes were now living in the lower Susquehanna Valley.

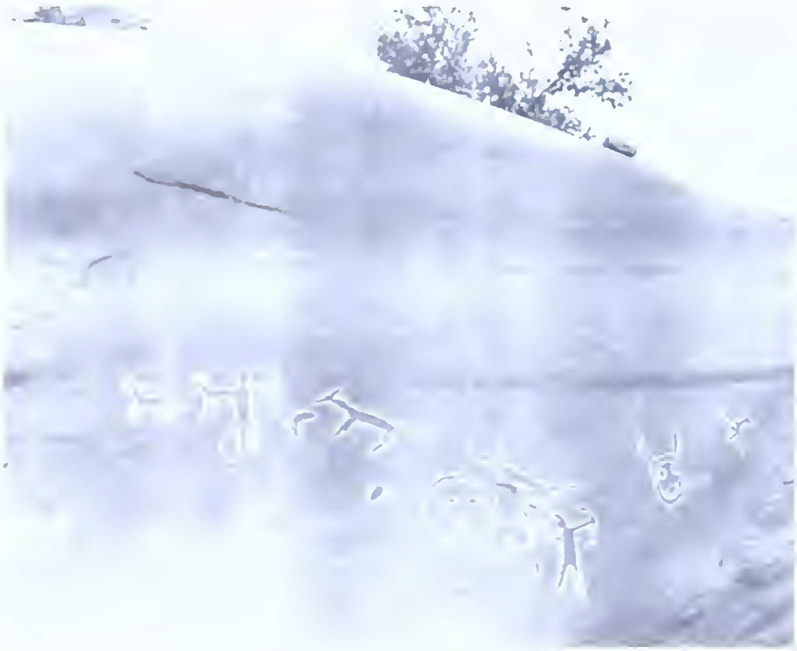
## CONESTOGA TOWN

Until 1697 the location of their jointly occupied town or towns in the lower valley is not certain. But in that year, again thanks to records in the Maryland Archives, we know that about 120 Susquehannock and Seneca Indians were living at a place in present Lancaster County called Carristauga (Conestoga). Actually the reference states that there were "40 lusty young men besides women and children."

After 1700 these people are rather frequently mentioned in the Pennsylvania Archives, and curiously enough they then become more commonly referred to as the Conestoga Indians.

The word Conestoga, or at least a word of that spelling, was not used to refer to Susquehannock prior to 1700. A near spelling of the word does appear on the Herrman map of 1670 (Onestoga) as the name of the river in Lancaster County now called Conestoga Creek.

Susquehannock is an Algonkian word and one which Captain John Smith's informants used to identify the Iroquoian-speaking people who subsequently became known to the English as the Susquehannock Indians. This was not their name for themselves and apparently they did not care how the Europeans referred to them. The Dutch, for example, called them Minguas, a name used by the Delaware Indians.



*Petroglyphs on an island in the lower Susquehanna Valley. The age, meaning and Indians responsible for these rock carvings are not known. They occur throughout Pennsylvania, but most commonly in the western part of the State.*

French Jesuit accounts as early as the 1630's give a variety of similar-looking but variously spelled names for the Susquehannock, which were given to them by Huron or other Iroquoian speakers. The most common of these are Andastogueronnon, Andaste, Andastogue and Gandastogues.

Depending upon whether one was French or English or the informant a Huron rather than another Iroquoian speaker, the Iroquoian pronunciation of the beginning of this word might be heard and recorded as Andas, Gandas, or Cones. Somewhere in between must lie the actual word which the Iroquoian-speaking Susquehannock used to refer to themselves. As English speakers, we might historically and logically accept the word Conestoga as their real name, but this reflects our own linguistic bias. In point of fact, we cannot reasonably suggest a new name for the Susquehannock, since by now they are too well known in the literature by that misnomer.

Indian names for themselves can usually be translated as the real people, or people who occupy a named geographical locality. Unfortunately, most actual Indian tribal names have not been recorded. Often the names which we do have are those given to early explorers by Indians who were telling them in their own language what they called their neighbors.

Since Indians had no form of writing other than petroglyphs, we cannot know what they called themselves in prehistoric times. In order that we can talk about specific tribal groups or culture periods, archeologists have had to provide them with names such as Shenks Ferry, Monongahela, or Archaic period Indians.

Conestoga Town, as it was called in the colonial records of Pennsylvania, became an important trading center and meeting place for various Indian groups and officials of the Pennsylvania Provincial government. Documents from the first half of the eighteenth century list the names of at least ten different tribes and dozens of Indian personal names in connection with events which took place or were recorded at Conestoga Town.

Archeological excavations at this site accurately portray the condition into which the Conestoga had fallen. There were practically no native-made objects. Tools, containers, ornaments and even most of the clothing were all European or colonial manufactures. House forms had changed to a type which mimicked the crudest of the white man's frontier cabins. A stockade around the village was no longer practical, and so none was built. Burials at Conestoga Town were generally in wooden coffins—the result of Christian influence. Most of what little wealth existed in the community went to accompany the dead. Glass beads, other worthless trinkets, and, occasionally, an old flintlock gun or worn-out iron axe were placed in the coffins in the hope that they might provide some better measure of comfort in the world of their ancestors.

## THE EIGHTEENTH CENTURY—TIME OF THE END

The Iroquois continued to claim title to the Susquehanna Valley by virtue of their defeat of the Susquehannock. But then, so did the Provincial government by virtue of its various purchases of the area from the Indians.

From about 1710 until 1750, the still powerful Iroquois confederacy invited many other dejected Indian nations to settle in *their* Susquehanna Valley. Pennsylvania officials generally approved these refugee relocations. Delaware, Shawnee, Nanticoke, Tutelo, Tuscarora, Conoy, and Iroquois all occupied various temporary towns along the Susquehanna. They all had one thing in common—broken-down cultures. These were defeated, displaced persons who had forgotten most of their old ways. They now used

European tools and dress and had acquired many of the worst of European habits.

Kinship structures were being lost and religion was becoming a cumbersome mixture of Christianity and native beliefs. Poverty, disease, and the hopelessness of defeat and hatred, combined with alcoholism and the constant shoving of the westward flow of colonial immigrants, reflect the Indian condition of the times.

Various incidents involving whites and Indians occurred during this period, but they were only the natural outgrowth of misunderstandings and conflict between two totally different cultural worlds—one dominant and technologically advanced, the other broken and uncertain of its future.

By 1750 the only Indians still residing in the lower Susquehanna Valley were the Conestoga, and then only by virtue of the supposed protection given these beggars and broom makers by the Provincial government. The others had moved further west or into New York State.

During the French and Indian wars (1754-1763) various French-allied Indians from the western part of the State, primarily Shawnee, Delaware and Mingo, raided eastern white settlements. The horror of Indian atrocities committed during this period is often difficult to comprehend—unless we reflect on the desperate condition to which they had fallen, and indeed examine both sides of the story.

## LAST OF THE CONESTOGA

In 1763, during Pontiac's War, Indian hatred stemming from the loss of their native lands was once more fanned into flaming conflict. One group of white settlers living in Dauphin County was so incensed by atrocities on the frontier resulting from Pontiac's War that it decided to seek its own retribution. This took the form of a raid on the harmless remnant Conestoga. In December, 1763, this group of hotheads, known as the Paxton Boys, rode to Conestoga Town where they massacred six Indians. Other Conestoga who were away at the time were taken in protective custody to the Lancaster jail by order of Governor John Penn.

Not satisfied with their first effort, the Paxton Boys returned on December 27, broke open the jail and shot and tomahawked the remaining fourteen men, women and children of the Conestoga tribe.

## CONTINUED INDIAN WARS

Pontiac's War was brought to an end in 1764, at least so far as Pennsylvania was concerned, as a result of Col. Henry Bouquet's expedition against the Delaware, Shawnee and other Indians in the Ohio country.

Occasional skirmishes on both sides continued in Pennsylvania, although rather sporadically, until the beginning of the American Revolutionary War. By 1776 the British had enlisted the aid of most of the Iroquois and various tribes still in the Ohio country in their war against the rebellious American colonies.

Once again Indians raided the frontier areas of the State. In 1778 a thousand Indians and Tories struck at the Wyoming Valley. Very few of the resident Americans escaped death or capture, and every house in the town of Wilkes-Barre was destroyed. General Sullivan's 1779 retaliatory expedition into central and western New York State brought an end to the effective action of the Iroquois against the American colonies, and by the final years of the Revolution most Indian raids had been confined to western Pennsylvania. However, the end of the war did not bring an end to the difficulties with the western Indians, largely Shawnee and Delaware.

It was not until Gen. Anthony Wayne's defeat of the Indians in 1795, at the battle of Fallen Timber in Lucas County, Ohio, that Pennsylvania's Indian wars were finally over.

Much of the preceding discussion of Pennsylvania's eighteenth-century Indians is based upon history rather than archeology. As we can see, both are important in tracing the developments and changes in our Indian cultures from their primitive beginnings in the State to the events of their sad conclusion.

## HISTORICAL ARCHEOLOGY

The story of Pennsylvania archeology does not end with the close of the eighteenth century. Historically, and archeologically, there were no longer any Indian societies or events with which to be concerned. The Indians were gone, beaten and driven off by the new owners of the land.

Archeology, of course, is not confined to understanding our former Indian cultures. In fact, in recent years we have seen a tremendous increase in historical archeology which

*Excavation of a historic site at Valley Forge, showing an eighteenth-century building foundation*

is devoted to restoring, preserving and understanding early American places and events.

The growing interest among people of this country in the events, places and objects of their own history underlies the increasing activities of historical archeology. History, that is recorded information, is the primary means of bringing into focus nearly forgotten events or places now obscured by time. But again, it is the union of historical research and archeological investigation which provides the fullest possible illumination of this fascinating past.

Let us look at a few places in the State where history records significant occurrences, and where archeology has made possible more-accurate restorations of facts or structures relating to them:

The site of Fort Pitt, once a built-over part of downtown Pittsburgh, has been cleared and includes a museum to interpret its history. Hannastown, in Westmoreland County, was, until recent years, known only from records as a small frontier town almost completely burned by British-allied Indians in 1782. Visitors to the site today will find a restored log house and fort, the results of archeology and historical research.

Similarly restored is George Washington's Fort Necessity in Fayette County, where he suffered his first military defeat, at the hands of a French and Indian force in 1754. The shape of this tiny fort was almost totally obscured, and in fact required three archeological investigations to determine its precise location and outline. Another excellent example of a French and Indian War period fort now restored through archeological investigation is Fort Ligonier at Ligonier, Pennsylvania.

Much is recorded about the site of the 1777-78 winter encampment of Washington's troops at Valley Forge. But here again it was the combination of history and archeology which uncovered the actual locations, sizes and contents of the soldiers' huts.

Archeology of varying intensity has been done at Fort LeBoeuf, Erie County; Fort McIntosh, Beaver County;

Fort Roberdeau, Blair County; Fort Augusta, Northumberland County; Fort Mifflin, Delaware County; Fort Loudoun, Franklin County, and others. In fact, it would appear to this point that historical archeology in Pennsylvania has been overwhelmingly concerned with military sites. Actually there has been a diversity of historic sites examined by archeologists. The list includes tanneries, factories, mills, forges, iron furnaces, and scores of old houses. Some of the latter have been completely rebuilt or re-created on old foundations discovered by archeologists. An example is William Penn's stately home on the Delaware in Bucks County. Benjamin Franklin's house in Philadelphia, built by him in 1764, torn down in 1812 and subsequently obliterated by later building, has been re-located by archeologists, and steel beams that trace its lineaments have been erected over what was left of its original foundations.

Many existing old houses which have been restored have had archeology done inside and around them to recover artifacts or features which relate to their former use or appearance.

Historical archeology is not simply intended to tell us the shape or size of an early house or fort. Like prehistoric archeology, its goals really are to unravel as much as possible about past human life and culture, ranging from momentous events to the simple affairs of day-to-day existence on this earth.

*William Penn's home on the Delaware as restored after the excavation of the site*

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